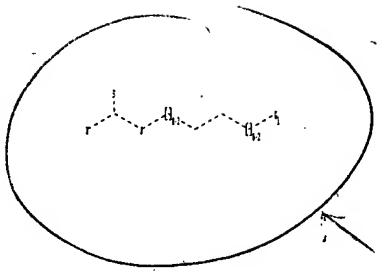
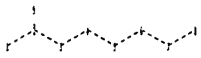
Uploading loe105p.str



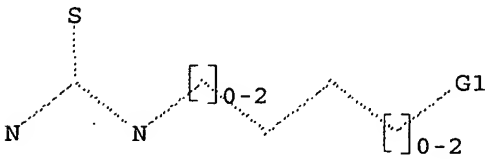


chain nodes :
1 2 3 4 7 8 9
ring/chain nodes :
5 6
chain bonds :
1-2 2-3 2-9 3-4 4-5 6-7 7-8
ring/chain bonds :
5-6
exact/norm bonds :
1-2 2-3 2-9 3-4 4-5 5-6 6-7 7-8

G1:O,S,N

Connectivity :
9:1 E exact RC ring/chain
Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom

=> d que stat l6
L4 STR



G1 O,S,N

Structure attributes must be viewed using STN Express query preparation.

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L6       118553 SEA FILE=REGISTRY SSS FUL L4

100.0% PROCESSED  418953 ITERATIONS                      118553 ANSWERS
SEARCH TIME: 00.00.05


=> d que stat l25
L1             1 SEA FILE=HCAPLUS ABB=ON  PLU=ON  US2004-840105/APPS
L2               TRANSFER  PLU=ON  L1 1- RN :       72 TERMS
L3            72 SEA FILE=REGISTRY ABB=ON  PLU=ON  L2
L4               STR
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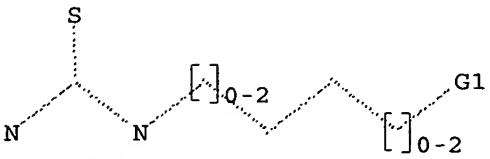


```
G1 O,S,N


Structure attributes must be viewed using STN Express query preparation.
L6       118553 SEA FILE=REGISTRY SSS FUL L4
L7               QUE  ABB=ON  PLU=ON  ?CYCLIZ? OR ?CYCLIS? OR (RING (2A)(C
                 LOS? OR FORM OR FORMING OR FORMS OR FORMATION))
L8               QUE  ABB=ON  PLU=ON  ?CYCLODESUL? OR (CYCLO(W)DESUL?)
L9               QUE  ABB=ON  PLU=ON  CYCLO (W) DE(W) (SULF? OR SULPH?)
L10        11576 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L6
L11         2989 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L6 (L) RACT+NT/RL
L12          652 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L10 (L) (L7 OR L8 OR L9)
L13          591 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L11 AND L12
L21            5 SEA FILE=REGISTRY ABB=ON  PLU=ON  L6 AND L3
L24           29 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L21
L25            3 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L24 AND L13

Uploading loe105fulrxn.str
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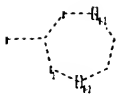
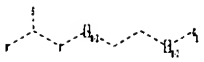
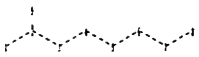


chain nodes :
1 2 3 4 7 8 9 27
ring nodes :
16 17 18 19 20 21 22
ring/chain nodes :
5 6
chain bonds :
1-2 2-3 2-9 3-4 4-5 6-7 7-8 18-27
ring/chain bonds :
5-6
ring bonds :
16-17 16-22 17-18 18-19 19-20 20-21 21-22
exact/norm bonds :
1-2 2-3 2-9 3-4 4-5 5-6 6-7 7-8 16-17 16-22 17-18 18-19 18-27 19-20
20-21 21-22

G1:O,S,N

G2:O,S,N

Connectivity :
9:1 E exact RC ring/chain
Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 16:Atom
17:Atom 18:Atom 19:Atom 20:Atom 21:Atom 22:Atom 27:Atom
fragments assigned product role:
containing 16

fragments assigned reactant/reagent role:
containing 1

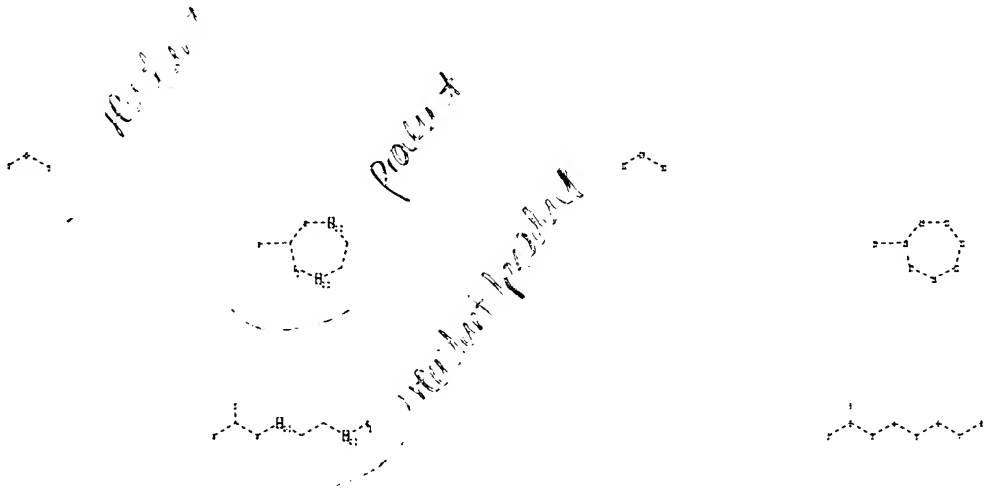
=> d que stat l33
L31 STR

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

Structure attributes must be viewed using STN Express query preparation.
L33 366 SEA FILE=CASREACT SSS FUL L31 (2195 REACTIONS)

100.0% DONE 22539 VERIFIED 2195 HIT RXNS 366 DOCS
SEARCH TIME: 00.00.08

Uploading loe105fulrxnr.str



chain nodes :
1 2 3 4 7 8 9 27 29 30 31
ring nodes :
16 17 18 19 20 21 22
ring/chain nodes :
5 6
chain bonds :
1-2 2-3 2-9 3-4 4-5 6-7 7-8 18-27 29-30 29-31
ring/chain bonds :
5-6
ring bonds :
16-17 16-22 17-18 18-19 19-20 20-21 21-22
exact/norm bonds :
1-2 2-3 2-9 3-4 4-5 5-6 6-7 7-8 16-17 16-22 17-18 18-19 18-27 19-20
20-21 21-22 29-30 29-31

G1:O,S,N

G2:O,S,N

Connectivity :
9:1 E exact RC ring/chain
Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 16:Atom 17:Atom 18:Atom 19:Atom 20:Atom 21:Atom 22:Atom 27:Atom 29:Atom 30:Atom 31:Atom
fragments assigned product role:
containing 16
fragments assigned reactant/reagent role:
containing 1
containing 29

=> => d que stat l36
L31 STR

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

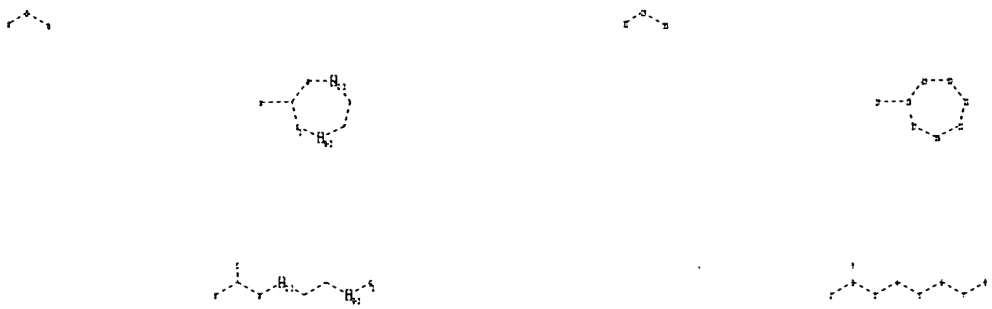
Structure attributes must be viewed using STN Express query preparation.
L33 366 SEA FILE=CASREACT SSS FUL L31 (2195 REACTIONS)
L34 STR

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

Structure attributes must be viewed using STN Express query preparation.
L36 61 SEA FILE=CASREACT SUB=L33 SSS FUL L34 (273 REACTIONS)

100.0% DONE 287 VERIFIED 273 HIT RXNS 61 DOCS
SEARCH TIME: 00.00.01

Uploading loe105fulrxnr.str



chain nodes :
1 2 3 4 7 8 9 27 29 30 31
ring nodes :
16 17 18 19 20 21 22
ring/chain nodes :
5 6
chain bonds :
1-2 2-3 2-9 3-4 4-5 6-7 7-8 18-27 29-30 29-31
ring/chain bonds :
5-6
ring bonds :
16-17 16-22 17-18 18-19 19-20 20-21 21-22
exact/norm bonds :
1-2 2-3 2-9 3-4 4-5 5-6 6-7 7-8 16-17 16-22 17-18 18-19 18-27 19-20
20-21 21-22 29-30 29-31

G1:O,S,N

G2:O,S,N

Connectivity :
9:1 E exact RC ring/chain
Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 16:Atom
17:Atom 18:Atom 19:Atom 20:Atom 21:Atom 22:Atom 27:Atom 29:Atom 30:Atom
31:Atom
fragments assigned product role:
containing 16
fragments assigned reactant/reagent role:
containing 1

containing 29

=> d que stat l39
L34 STR

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

Structure attributes must be viewed using STN Express query preparation.
L39 18 SEA FILE=CHEMINFORMRX SSS FUL L34 (58 REACTIONS)

100.0% DONE 378 VERIFIED 58 HIT RXNS 18 DOCS
SEARCH TIME: 00.00.17

=> dup rem l25 l36 l39
DUPLICATE IS NOT AVAILABLE IN 'CHEMINFORMRX'.
ANSWERS FROM THESE FILES WILL BE CONSIDERED UNIQUE
FILE 'HCAPLUS' ENTERED AT 11:01:02 ON 17 JAN 2007
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2007 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'CASREACT' ENTERED AT 11:01:02 ON 17 JAN 2007
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT
COPYRIGHT (C) 2007 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'CHEMINFORMRX' ENTERED AT 11:01:02 ON 17 JAN 2007
COPYRIGHT (C) FIZ-CHEMIE BERLIN
PROCESSING COMPLETED FOR L25
PROCESSING COMPLETED FOR L36
PROCESSING COMPLETED FOR L39
L47 82 DUP REM L25 L36 L39 (0 DUPLICATES REMOVED)
ANSWERS '1-3' FROM FILE HCAPLUS
ANSWERS '4-64' FROM FILE CASREACT
ANSWERS '65-82' FROM FILE CHEMINFORMRX

=> file stnguide
FILE 'STNGUIDE' ENTERED AT 11:02:46 ON 17 JAN 2007
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT
COPYRIGHT (C) 2007 AMERICAN CHEMICAL SOCIETY, JAPAN SCIENCE
AND TECHNOLOGY CORPORATION, AND FACHINFORMATIONSZENTRUM KARLSRUHE

FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Jan 12, 2007 (20070112/UP).

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=> d ibib ed ab hitstr
YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS, CASREACT, CHEMINFORMRX' - CONTINUE?
(Y)/N:y
```

L47 ANSWER 1 OF 82 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:1036708 HCAPLUS
DOCUMENT NUMBER: 142:23282
TITLE: Process for synthesizing heterocyclic compounds by reaction of diamines, amino alcohols, or amino thioalcohols with isothiocyanates and cyclization of thiourea intermediates
INVENTOR(S): Heinelt, Uwe; Lang, Hans-Jochen
PATENT ASSIGNEE(S): Aventis Pharma Deutschland GmbH, Germany
SOURCE: U.S. Pat. Appl. Publ., 16 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004242560	A1	20041202	US 2004-840105	20040506
DE 10323701	A1	20041223	DE 2003-10323701	20030522
AU 2004240716	A1	20041202	AU 2004-240716	20040510
CA 2526646	A1	20041202	CA 2004-2526646	20040510
WO 2004103976	A2	20041202	WO 2004-EP4955	20040510
WO 2004103976	A3	20050210		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1631552	A2	20060308	EP 2004-731903	20040510
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, TR, BG, CZ, EE, HU, PL, SK				
BR 2004010565	A	20060620	BR 2004-10565	20040510
CN 1795178	A	20060628	CN 2004-80014178	20040510
NO 2005005991	A	20060214	NO 2005-5991	20051216

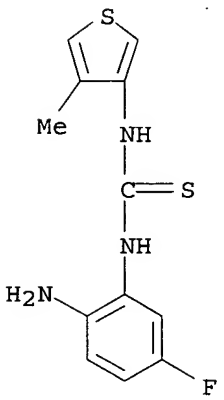
PRIORITY APPLN. INFO.:	DE 2003-10323701	A	20030522
	US 2003-507143P	P	20030930
	WO 2004-EP4955	W	20040510

OTHER SOURCE(S): MARPAT 142:23282
ED Entered STN: 03 Dec 2004
AB The invention provides the process for synthesizing heterocyclic compds. of formula (I) [X = S, O, NR5 (wherein R5 = H, C1-4 alkyl); m, o = 0, 1, 2; A = each (un)substituted Ph, naphthyl, or heteroaryl; R10-R17 = H, F, partially or fully fluorinated C1-4 alkyl; or R14 and R16 together are a bond, and R15 and R17, together with the two carbon atoms to which they

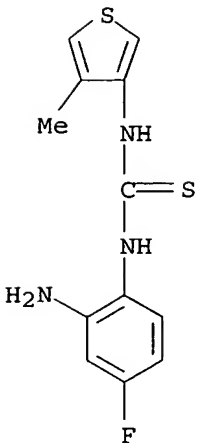
are bonded, form an aromatic six-membered carbocycle, in which one or two carbon atoms may be replaced by nitrogen, or a thiophene ring, wherein the aromatic six-membered carbocycle and the thiophene ring is optionally substituted; wherein, either (i) A is an aromatic ring system, or (ii) the ring formed from R15 and R17 is an aromatic system and m is zero, or (iii) each of A and the ring formed from R15 and R17 is an aromatic ring system] and their tautomers and their salts. In the process, an isothiocyanate of A-NCS (A = same as above) is initially reacted with a primary amine of formula (II) (R = H; m, o, X, R10-R17= same as above) to give a thiourea of formula II [R = A-NH-C(S)]. Subsequently, the thiourea II [R = A-NH-C(S)] is converted to the corresponding heterocycle I using a base and a sulfonyl chloride. Thus, a solution of Ph isothiocyanate (500 mg) in absolute THF (6 mL) was added dropwise over 20 min under argon to a solution of ethylenediamine (5.56 g) in absolute THF (6 mL) and the reaction mixture was treated with H2O, acidified with 10% HCl, and extracted with EtOAc to give 50 mg 1-(2-aminoethyl)-3-phenylthiourea (III). III (50 mg) was dissolved in THF (1.5 mL) under argon, admixed with a solution of NaOH (25.6 mg) in H2O (0.6 mL), and treated dropwise with a solution of p-toluenesulfonyl chloride (53.7 mg) in THF within 5 min. and the reaction mixture was stirred for 0.5 h to give, after workup and chromatog. purification, 20 mg 2-(phenylimino)imidazolidine.

IT **632356-19-5P 800378-35-2P**
RL: **RCT (Reactant)**; SPN (Synthetic preparation); PREP (Preparation); **RACT (Reactant or reagent)**
(process for preparation of heterocyclic compds. by thiocarbamoylation of diamines or amino alcs. and **cyclization** of thiourea intermediates)

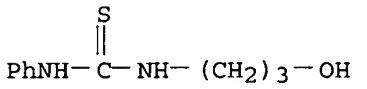
RN 632356-19-5 HCAPLUS
CN Thiourea, N-(2-amino-5-fluorophenyl)-N'-(4-methyl-3-thienyl)- (9CI) (CA INDEX NAME)



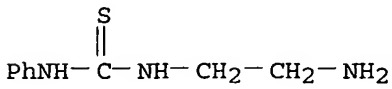
RN 800378-35-2 HCAPLUS
CN Thiourea, N-(2-amino-4-fluorophenyl)-N'-(4-methyl-3-thienyl)- (9CI) (CA INDEX NAME)



IT **29146-63-2P 31090-77-4P 800378-34-1P**
RL: **RCT (Reactant)**; SPN (Synthetic preparation); PREP (Preparation); **RACT (Reactant or reagent)**
(process for preparation of heterocyclic compds. by thiocarbamoylation of diamines, amino alcs., or amino thioalcs. and **cyclization** of thiourea intermediates)
RN 29146-63-2 HCAPLUS
CN Thiourea, N-(3-hydroxypropyl)-N'-phenyl- (9CI) (CA INDEX NAME)

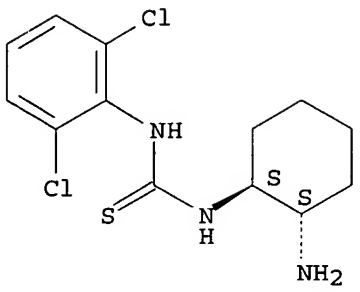


RN 31090-77-4 HCAPLUS
CN Thiourea, N-(2-aminoethyl)-N'-phenyl- (9CI) (CA INDEX NAME)



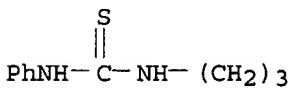
RN 800378-34-1 HCAPLUS
CN Thiourea, N-[(1R,2R)-2-aminocyclohexyl]-N'-(2,6-dichlorophenyl)-, rel- (9CI) (CA INDEX NAME)

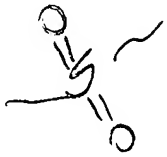
Relative stereochemistry.



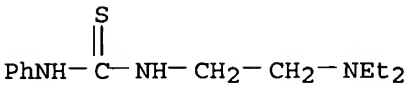
=> d ibib ed ab hitstr 2-3
YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS, CASREACT, CHEMINFORMRX' - CONTINUE?
(Y)/N:y

L47 ANSWER 2 OF 82 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1991:122166 HCAPLUS
DOCUMENT NUMBER: 114:122166
TITLE: Synthesis and pharmacological investigations of 3-(aminoalkylene)-1-aryl-2-thioxo-4,5-imidazolidinedione and 2,4,5-imidazolidinetrione derivatives
AUTHOR(S): Zankowska-Jasinska, Wanda; Borowiec, Halina; Golus, Janusz; Kolasa, Anna; Zaleska, Barbara; Krzywosinski, Leszek; Bogdal, Maria; Przemyk, Barbara
CORPORATE SOURCE: Dep. Org. Chem., Jagiellonian Univ., Krakow, 30-060, Pol.
SOURCE: Polish Journal of Pharmacology and Pharmacy (1990), 42(1), 49-58
CODEN: PJPPAA; ISSN: 0301-0244
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 06 Apr 1991
AB New derivs. of 2-thioxo-4,5-imidazolidinedione I (X = S; R = Ph; 3-MeOC6H4, 4-EtO2CC6H4; NR1R2 = NH2, NEt2, 2,3-dioxopiperazinyl; n = 2, 3) and 2,4,5-imidazolidinetrione I (X = O, R = Ph, R1R2 = NEt2, 2,3-dioxopiperazinyl, n = 2) were synthesized by N,N'-acylation of asym. thioureas and ureas by oxalyl chloride. I were screened for their central action, mainly anticonvulsant activity, but showed no useful activity.
IT **730-19-8** **889-28-1** **31090-77-4**
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(**cyclization** of, with oxalyl chloride)
RN 730-19-8 HCAPLUS
CN Thiourea, N-[3-(diethylamino)propyl]-N'-phenyl- (9CI) (CA INDEX NAME)

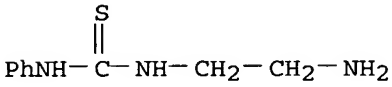




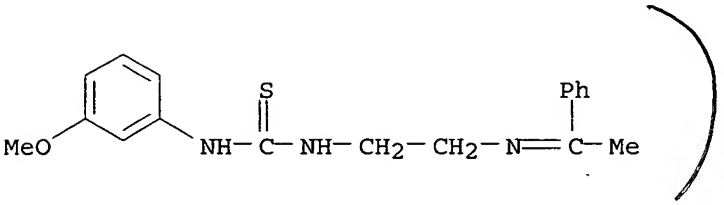
RN 889-28-1 HCAPLUS
CN Thiourea, N-[2-(diethylamino)ethyl]-N'-phenyl- (9CI) (CA INDEX NAME)



RN 31090-77-4 HCAPLUS
CN Thiourea, N-(2-aminoethyl)-N'-phenyl- (9CI) (CA INDEX NAME)

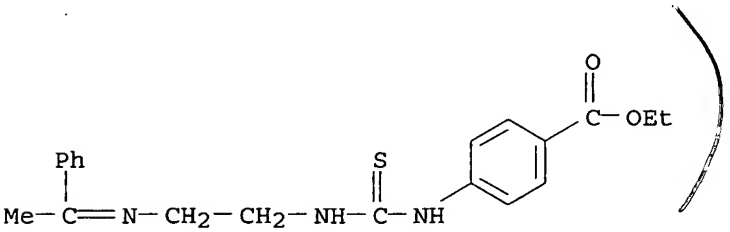


IT **132411-90-6P 132411-91-7P**
RL: **RCT (Reactant)**; SPN (Synthetic preparation); PREP (Preparation); **RACT (Reactant or reagent)**
(preparation and **cyclization** of)
RN 132411-90-6 HCAPLUS
CN Thiourea, N-(3-methoxyphenyl)-N'-[2-[(1-phenylethylidene)amino]ethyl]-(9CI) (CA INDEX NAME)



What numbered ring does this form?

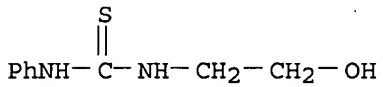
RN 132411-91-7 HCAPLUS
CN Benzoic acid, 4-[[[[2-[(1-phenylethylidene)amino]ethyl]amino]thioxomethyl]amino]-, ethyl ester (9CI) (CA INDEX NAME)



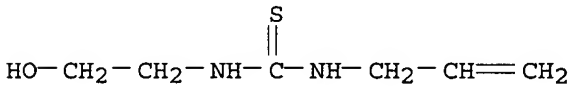
L47 ANSWER 3 OF 82 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1989:423460 HCAPLUS
DOCUMENT NUMBER: 111:23460
TITLE: Reaction of phosphorous acid dialkylamides with N-(hydroxyalkyl)-N'-substituted thioureas. New synthesis of 2-iminothiazolidine and 2-iminoperhydro-1,3-thiazine derivatives
AUTHOR(S): Mizrakh, L. I.; Polonskaya, L. Yu.; Gvozdetskii, A. N.; Vasil'ev, A. M.; Karpunina, L. B.
CORPORATE SOURCE: Inst. Biofiz., Moscow, USSR

SOURCE: Zhurnal Obshchei Khimii (1988), 58(10), 2246-51
CODEN: ZOKHA4; ISSN: 0044-460X
DOCUMENT TYPE: Journal
LANGUAGE: Russian
OTHER SOURCE(S): CASREACT 111:23460
ED Entered STN: 21 Jul 1989
AB Treatment of (hydroxyalkyl)thioureas RNHC(S)NR1(CH2)nCHR2OH (R = Me, Ph, alkyl; R1 = H, Me, CH2CH2OH; R2 = H, Me; n = 1, 2) with phosphorous acid dialkylamides P(NEt2)3 or (R3O)2PNEt2 (R3 = Pr or R32 = CH2CH2) afforded title thiazolidine or thiazine derivs. I.
IT **102-12-5** **105-81-7** **3120-26-1** **5137-50-8** **23309-78-6** **29146-63-2** **90914-63-9** **109315-14-2** **121215-87-0**
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)** (**cyclization** of, in presence of phosphorous acid dialkylamide)

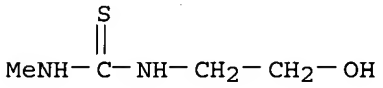
RN 102-12-5 HCAPLUS
CN Thiourea, N-(2-hydroxyethyl)-N'-phenyl- (9CI) (CA INDEX NAME)



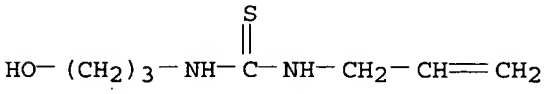
RN 105-81-7 HCAPLUS
CN Thiourea, N-(2-hydroxyethyl)-N'-2-propenyl- (9CI) (CA INDEX NAME)



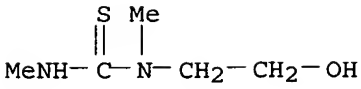
RN 3120-26-1 HCAPLUS
CN Thiourea, N-(2-hydroxyethyl)-N'-methyl- (9CI) (CA INDEX NAME)



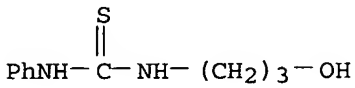
RN 5137-50-8 HCAPLUS
CN Thiourea, N-(3-hydroxypropyl)-N'-2-propenyl- (9CI) (CA INDEX NAME)



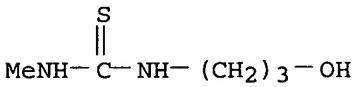
RN 23309-78-6 HCAPLUS
CN Thiourea, N-(2-hydroxyethyl)-N,N'-dimethyl- (9CI) (CA INDEX NAME)



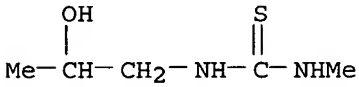
RN 29146-63-2 HCAPLUS
CN Thiourea, N-(3-hydroxypropyl)-N'-phenyl- (9CI) (CA INDEX NAME)



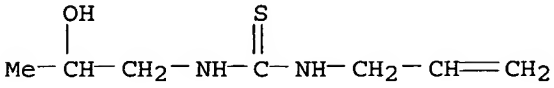
RN 90914-63-9 HCAPLUS
CN Thiourea, N-(3-hydroxypropyl)-N'-methyl- (9CI) (CA INDEX NAME)



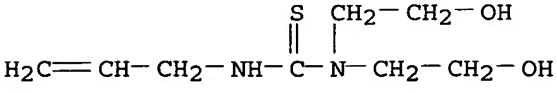
RN 109315-14-2 HCAPLUS
CN Thiourea, N-(2-hydroxypropyl)-N'-methyl- (9CI) (CA INDEX NAME)



RN 121215-87-0 HCAPLUS
CN Thiourea, N-(2-hydroxypropyl)-N'-(2-propenyl)- (9CI) (CA INDEX NAME)

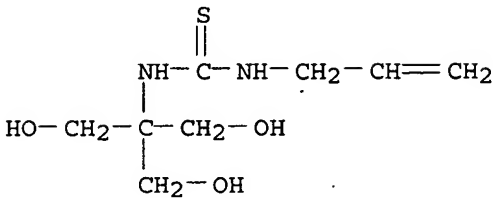


IT **5137-48-4P 121215-67-6P**
RL: **RCT (Reactant)**; SPN (Synthetic preparation); PREP (Preparation); **RACT (Reactant or reagent)**
(preparation and **cyclization** of)
RN 5137-48-4 HCAPLUS
CN Thiourea, N,N-bis(2-hydroxyethyl)-N'-2-propenyl- (9CI) (CA INDEX NAME)



RN 121215-67-6 HCAPLUS
CN Thiourea, N-[2-hydroxy-1,1-bis(hydroxymethyl)ethyl]-N'-2-propenyl- (9CI)

(CA INDEX NAME)



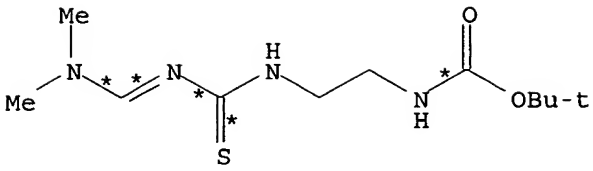
=> d ibib ed ab fhit 4
YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS, CASREACT, CHEMINFORMRX' - CONTINUE?
(Y)/N:y

'ED' IS NOT A VALID FORMAT

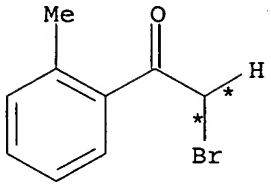
REENTER DISPLAY FORMAT FOR ALL FILES (FILEDEFAULT):ibib ab fhit

L47 ANSWER 4 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 145:210938 CASREACT
TITLE: Aminothiazole derivatives as neuropeptide Y5 receptor ligands: finding the balance between affinity and physicochemical properties
AUTHOR(S): Nettekoven, Matthias; Guba, Wolfgang; Neidhart, Werner; Mattei, Patrizio; Pflieger, Philippe; Plancher, Jean-Marc; Taylor, Sven
CORPORATE SOURCE: Pharmaceutical Research Basel, Discovery Chemistry, F. Hoffmann-La Roche Ltd., Basel, 4070, Switz.
SOURCE: ChemMedChem (2006), 1(1), 45-48
CODEN: CHEMGX; ISSN: 1860-7179
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A straight-forward parallel solution-phase synthesis of novel thiazole derivs. I (X = 1,2-ethylene, 1,3-propylene, 1,4-phenylene, etc.; R1 = Me2N, 2-FC6H4, 4-MeOC6H4, 2-thienyl; R2 = H, Me) with varying linker moieties is described. Assessments of artificial membrane permeability and solubility show that some members of this compound class may be suitable antagonists for the neuropeptide Y5 receptor, which is involved in the stimulation of food intake.

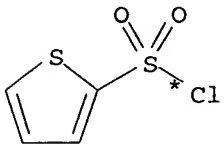
RX(69) OF 144 COMPOSED OF RX(49), RX(1)
RX(69) **BH** + CA + **B** ===> **C**



BH

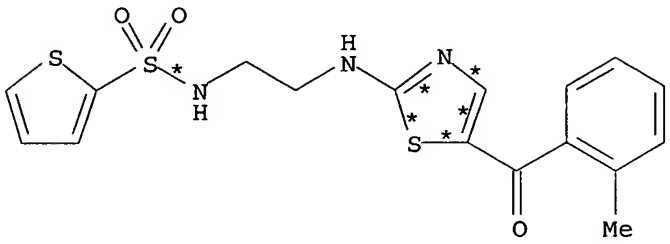


CA



B

2
STEPS



C

RX(49) RCT BH **593270-45-2**, CA 51012-65-8
RGT E 121-44-8 Et3N
PRO A 593270-46-3
SOL 64-17-5 EtOH
CON 16 hours, 100 deg C

RX(1) RCT A 593270-46-3

STAGE(1)
RGT D 7647-01-0 HCl
SOL 123-91-1 Dioxane
CON room temperature

STAGE(2)
RCT B **16629-19-9**
RGT E 121-44-8 Et3N
SOL 67-56-1 MeOH, 75-09-2 CH2Cl2
CON 16 hours, 50 deg C

PRO C **593269-65-9**
REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d ibib ab fhit 5-64
YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS, CASREACT, CHEMINFORMRX' - CONTINUE?
(Y)/N:y

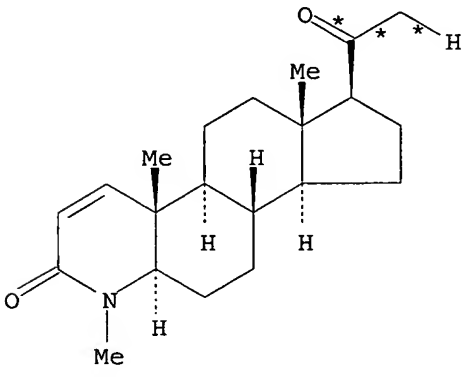
L47 ANSWER 5 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 142:336517 CASREACT
TITLE: Preparation of 17-heterocyclic-4-aza-5α-androst-1-en-3-one derivatives for their use as modulators of the androgen receptor in a tissue selective manner
INVENTOR(S): Kaufman, Mildred L.; Meissner, Robert S.; Mitchell, Helen J.
PATENT ASSIGNEE(S): Merck & Co., Inc., USA
SOURCE: PCT Int. Appl., 127 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005025572	A1	20050324	WO 2004-US28655	20040902
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2004272007	A1	20050324	AU 2004-272007	20040902
CA 2537660	A1	20050324	CA 2004-2537660	20040902
EP 1663228	A1	20060607	EP 2004-783033	20040902
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
CN 1849120	A	20061018	CN 2004-80025867	20040902
PRIORITY APPLN. INFO.:			US 2003-501789P	20030910
			WO 2004-US28655	20040902

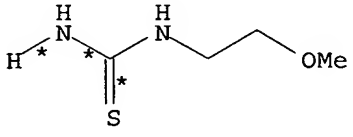
OTHER SOURCE(S): MARPAT 142:336517
AB 17-Heterocyclic-4-aza-5α-androst-1-en-3-one derivs., such as I [dashed bond = single bond, double bond; X = H, halo; Y, Z = H, alkyl, halo; Y and Z, together with the carbon atom to which they are attached = cyclopropyl; n = 0-3; U, V, W, D = CH, N, S, O; R1 = H, CF3, carbonyl(alkyl), OH, alkoxy, halo, alkyl, CH2OH, alkylamino; R2 = halo, carbonyl(alkyl), carbonyl(alkenyl), carbonyl(alkynyl), alkenylamino, heterocyclic, etc.], were prepared for their use as modulators of the androgen receptor (AR) in a tissue selective manner. Thus, II (R = OH) was treated with Et3N, and iso-Bu chloroformate, followed by reaction with

N,O-dimethylhydroxylamine hydrochloride to give II [R = N(Me)OMe (III)]. III was converted to 4-aza-5α-androst-1-en-3,20-dione derivative II (R = Me), and then to bromide II [R = CH2Br (IV)], which was treated with N-butyl-thiourea to afford V. The prepared compds. are useful in the enhancement of weakened muscle tone and the treatment of conditions caused by androgen deficiency or which can be ameliorated by androgen administration, including osteoporosis, osteopenia, glucocorticoid-induced osteoporosis, periodontal disease, bone fracture, bone damage following bone reconstructive surgery, sarcopenia, frailty, aging skin, male hypogonadism, postmenopausal symptoms in women, atherosclerosis, hypercholesterolemia, hyperlipidemia, obesity, aplastic anemia and other hematopoietic disorders, inflammatory arthritis and joint repair, HIV-wasting, prostate cancer, benign prostatic hyperplasia (BPH), abdominal adiposity, metabolic syndrome, type II diabetes, cancer cachexia, Alzheimer's disease, muscular dystrophies, cognitive decline, sexual dysfunction, sleep apnea, depression, premature ovarian failure, and autoimmune disease, alone or in combination with other active agents.

RX(125) OF 329 COMPOSED OF RX(78), RX(11)
RX(125) FJ + W ===> X

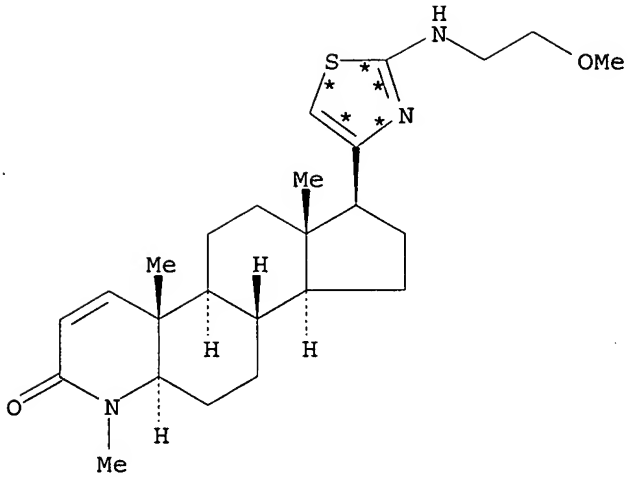


FJ



W

2
STEPS



X

RX(78) RCT FJ 848354-06-3

STAGE(1)
RGT FM 7726-95-6 Br2
SOL 67-56-1 MeOH
CON SUBSTAGE(1) 0 deg C
SUBSTAGE(2) 0 deg C -> room temperature
SUBSTAGE(3) 18 hours, room temperature

STAGE(2)
RGT FN **7631-90-5** NaHSO3
SOL 7732-18-5 Water
CON room temperature

PRO A 848354-07-4

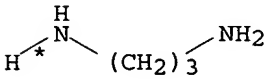
RX(11) RCT W **102353-42-4**, A 848354-07-4
PRO X **848353-39-9**
SOL 64-17-5 EtOH
CON 14 hours, room temperature
REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 6 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 143:477631 CASREACT
TITLE: Solid-Phase and Solution-Phase Syntheses of Oligomeric Guanidines Bearing Peptide Side Chains
AUTHOR(S): Zhang, Zhongsheng; Fan, Erkang
CORPORATE SOURCE: Department of Biochemistry, Biomolecular Structure Center, University of Washington, Seattle, WA, 98195, USA
SOURCE: Journal of Organic Chemistry (2005), 70(22), 8801-8810 CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society

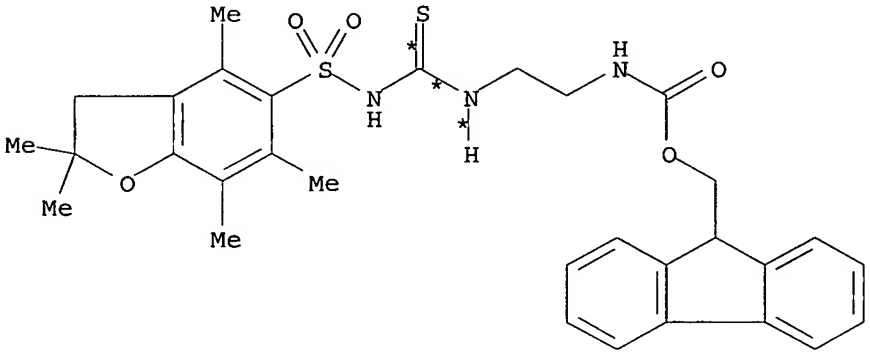
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Synthetic strategies for preparing N,N'-bridged oligomeric guanidines bearing peptide side chains both on solid support and in solution are presented. Monomers are prepared from common amino acids and therefore contain conventionally protected peptide side chains. The side chains include alkyl, aromatic, hydroxyl, amino, carboxylic acid and amide functional groups. Oligomer elongation utilizes acid-sensitive sulfonyl activated thiourea through the formation of carbodiimide intermediate. With proper preparation of monomers, synthesis of oligomer can be performed in two directions (equivalent to N to C terminal or C to N terminal in a peptide sequence) with excellent efficiency. 192 Mg of guanidine-based oligomer I, as a trifluoroacetate salt, was synthesized via solid-phase synthesis methods performed in N to C terminal direction.

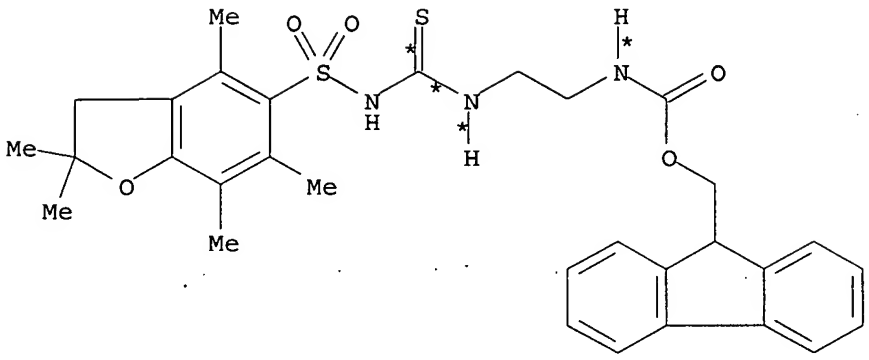
RX(15) OF 159 ...AM + 2 **AL** ===> AN + **AO.**..



AM
resin-bound

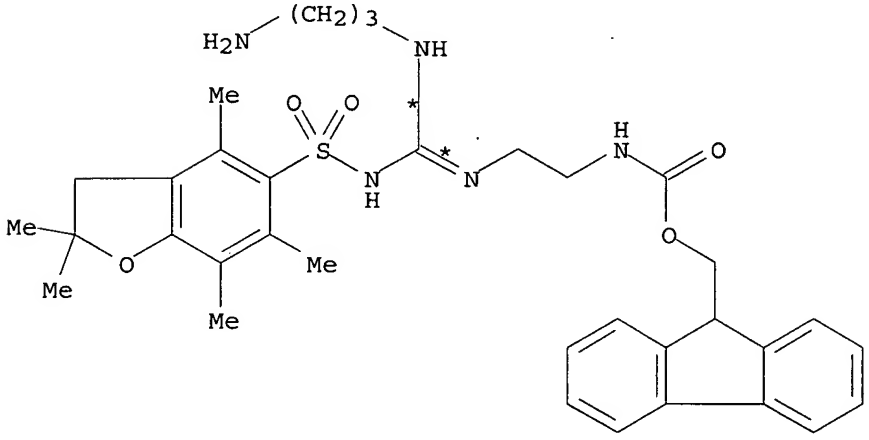


AL

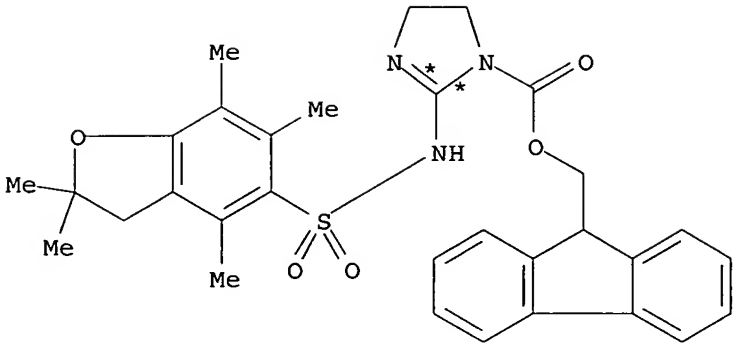


AL

(15)



AN
YIELD 29%
resin-bound



AO
YIELD 94%

RX(15) RCT AM 109-76-2D

STAGE(1)
SOL 75-09-2 CH2Cl2
CON 2 hours, room temperature

STAGE(2)
RGT AP 67-56-1 MeOH
CON room temperature

STAGE(3)
RCT AL **869735-78-4**
RGT Z 7087-68-5 EtN(Pr-i)2, AA 25952-53-8 EDAP
SOL 75-09-2 CH2Cl2
CON overnight, room temperature

STAGE(4)
RGT AQ 82911-69-1 2,5-Pyrrolidinedione, 1-[[(9H-fluoren-9-ylmethoxy)carbonyl]oxy]-, Z 7087-68-5 EtN(Pr-i)2
SOL 75-09-2 CH2Cl2
CON overnight, room temperature

STAGE(5)
RGT AE 6485-79-6 Silane, tris(1-methylethyl)-, AF 7732-18-5 Water, W 76-05-1 F3CCO2H
SOL 7732-18-5 Water, 76-05-1 F3CCO2H
CON 2 hours, room temperature

PRO AN 869735-87-5D, AO **869735-88-6**
NTE solid-supported reaction, first stage is attachment to trityl chloride resin

REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 7 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 144:88225 CASREACT
TITLE: Synthesis of Tricyclic 1,3-Oxazin-4-ones and Kinetic

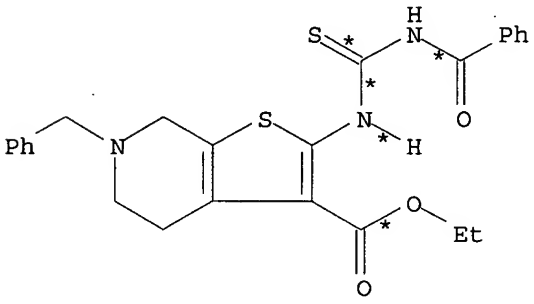
Analysis of Cholesterol Esterase and Acetylcholinesterase Inhibition

AUTHOR(S): Pietsch, Markus; Guetschow, Michael
CORPORATE SOURCE: Pharmaceutical Institute, University of Bonn, Bonn, D-53115, Germany

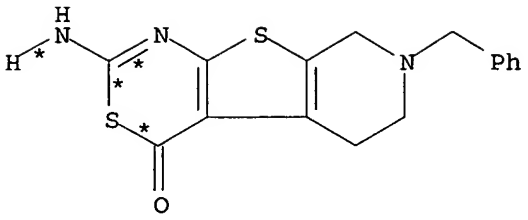
SOURCE: Journal of Medicinal Chemistry (2005), 48(26), 8270-8288
CODEN: JMCMAR; ISSN: 0022-2623
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A series of thieno[1,3]oxazin-4-ones and thieno[1,3]thiazin-4-ones were synthesized and investigated as inhibitors of the α/β hydrolases cholesterol esterase (CEase) and acetylcholinesterase (AChE). The introduction of a cycloaliph. five- or six-membered ring fused at the thiophene was favorable for CEase inhibition. Such compds. were analyzed as true alternate substrate inhibitors. 6,7-Dihydro-2-(dimethylamino)-4H,5H-cyclopenta[4,5]thieno[2,3-d][1,3]oxazin-4-one (I) exhibited a Ki value of 630 nM and excelled in its low susceptibility to CEase-catalyzed degradation I and its analogs did not inhibit AChE. The introduction of a tetrahydropyrido ring with bulky hydrophobic substituents at the basic nitrogen provided inhibitors of AChE which were completely inactive toward CEase. 7-Benzyl-5,6,7,8-tetrahydro-2-(N-3,4-dimethoxybenzyl-N-methylamino)-4H-pyrido[4',3':4,5]thieno[2,3-d][1,3]oxazin-4-one had the IC50 value of 330 nM for AChE inhibition. A residual enzymic activity at an infinite inhibitor concentration and thus a catalytically active ternary enzyme-substrate-inhibitor complex was concluded. To specify kinetic parameters of inhibition, a new method was derived to characterize selected thieno[1,3]oxazin-4-ones as hyperbolic mixed-type inhibitors of AChE.

RX(42) OF 103 **CJ** ===> **CK**



CJ (42) →



CK

RX(42) RCT CJ **102609-55-2**

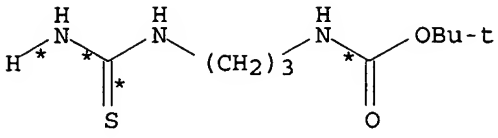
STAGE(1)
RGT CL **7664-93-9** H2SO4
SOL 7732-18-5 Water
CON room temperature - 100 deg C

STAGE(2)
RGT CM 1310-73-2 NaOH
SOL 7732-18-5 Water
CON 0 deg C

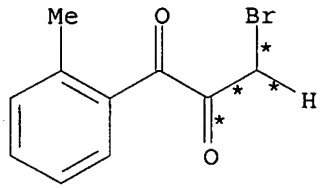
PRO CK **117516-95-7**
REFERENCE COUNT: 95 THERE ARE 95 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 8 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 143:229771 CASREACT
TITLE: Isomeric thiazole derivatives as ligands for the neuropeptide Y5 receptor
AUTHOR(S): Nettekoven, Matthias; Guba, Wolfgang; Neidhart, Werner; Mattei, Patrizio; Pflieger, Philippe; Roche, Olivier; Taylor, Sven
CORPORATE SOURCE: Pharmaceutical Research Basel, Discovery Chemistry, F. Hoffmann-La Roche Ltd., Basel, CH-4070, Switz.
SOURCE: Bioorganic & Medicinal Chemistry Letters (2005), 15(14), 3446-3449
CODEN: BMCLE8; ISSN: 0960-894X
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Sets of isomeric thiazoles I [R = 4-FC6H4, 3-MeOC6H4, 2,5-(MeO)2C6H3, 2-furyl, etc.] and II have been synthesized in a parallel iterative solution-phase synthesis approach guided by the SAR anal. derived from biol. results and computer-aided design and anal. This synergistic and streamlined working procedure led to highly active isomeric NPY5 receptor ligands. However, a 10-fold difference at least in their resp. binding affinities was consistently found for all isomeric pairs I and II. The anal. of conformational differences due to heteroatom interactions in I and II revealed a favorable C=O···S interaction in I, whereas thiazoles II showed a repulsive C=O···N interaction.

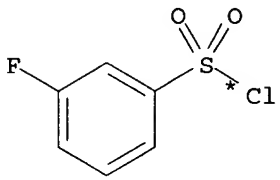
RX(19) OF 39 COMPOSED OF RX(2), RX(10)
RX(19) **A** + D + **I** ===> **Y**



A

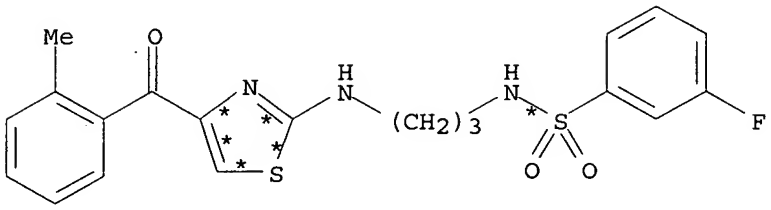


D



I

2 STEPS



Y

RX(2) RCT A **270260-72-5**, D 82102-48-5
RGT F 121-44-8 Et3N
PRO E 593269-10-4
SOL 67-56-1 MeOH
CON 2 hours, 80 deg C

RX(10) RCT E 593269-10-4

STAGE(1)
RGT K 7647-01-0 HCl
SOL 123-91-1 Dioxane

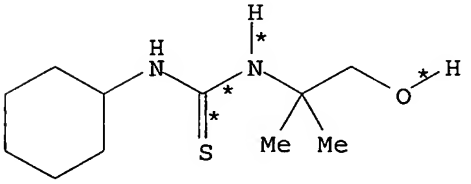
STAGE(2)
RCT I **701-27-9**

PRO Y **593269-24-0**
REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 9 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 143:229950 CASREACT
TITLE: Diazaallyls of group 4 metals based on trans-1,2-diaminocyclohexane
AUTHOR(S): Crust, Edward J.; Munslow, Ian J.; Scott, Peter
CORPORATE SOURCE: Department of Chemistry, University of Warwick, Coventry, CV4 7AL, UK
SOURCE: Journal of Organometallic Chemistry (2005), 690(14), 3373-3382
CODEN: JORCAI; ISSN: 0022-328X
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

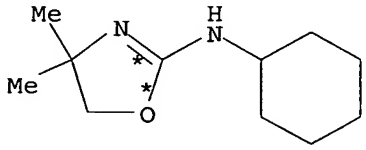
AB Amination of 2-bromo-6-methylpyridine with trans-1,2-diaminocyclohexane gives the corresponding bis(aminopyridine) H2L1. Conversion of the same diamine to the N,N'-bis(amino-4,4-dimethylthiazoline) H2L2 is also completed in three steps. The analogous aminooxazoline is, however, inaccessible, although the aminocyclohexane analog was prepared readily. The proligand H2L1 forms bis(aminopyridinato) alkyl complexes [ZrL1R2] (R = CH2Ph, CH2But). The mol. structure of the neopentyl complex shows that the chiral backbone leads to a puckering of the N4Zr coordination sphere, which contrasts with the related cyclohexyl-bridged Schiff-base complexes which are essentially planar. [ZrL2(CH2But)2] - the 1st aminothiazolinato complex - is formed similarly. A comparison of the structures of [ZrL1(CH2But)2] and [ZrL2(CH2But)2] indicates that the latter has a fully delocalized N-C-N system, rather similar to a bis(amidinate). Reaction of H2L2 with [Ti(NMe2)4] gives [TiL2(NMe2)2] which appears to be C2-sym. like the above complexes according to NMR spectra, but has one uncoordinated thiazoline unit in the solid state. This is a result of increased ring strain at the smaller Ti metal center.

RX(4) OF 22 ...I ===> J



I

(4) ⟶



J
YIELD 72%

RX(4) RCT I 66450-69-9
RGT K 1310-73-2 NaOH, L 104-15-4 TsOH
PRO J 862672-75-1
SOL 7732-18-5 Water, 109-99-9 THF
CON SUBSTAGE(1) 20 minutes, room temperature
SUBSTAGE(2) overnight, room temperature

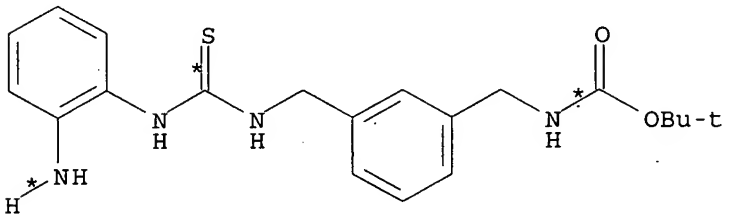
REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

PRINTED

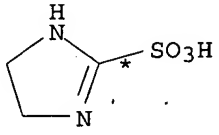
L47 ANSWER 10 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 142:331743 CASREACT
TITLE: Metal-Free Catalysts for the Hydrolysis of RNA Derived from Guanidines, 2-Aminopyridines, and 2-Aminobenzimidazoles
AUTHOR(S): Scheffer, Ute; Strick, Andreas; Ludwig, Verena; Peter, Sascha; Kalden, Elisabeth; Goebel, Michael W.
CORPORATE SOURCE: Institute for Organic Chemistry and Chemical Biology, Goethe-University Frankfurt, Frankfurt am Main, 60439, Germany
SOURCE: Journal of the American Chemical Society (2005), 127(7), 2211-2217
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB 2-Aminopyridine and 2-aminobenzimidazole were chosen as structural analogs to substitute guanidinium groups in receptor mols. designed as phosphoryl transfer catalysts. Shifting the pKa of the guanidinium analogs toward 7 was expected to raise catalytic activities in aqueous buffer. Although the pKa's of both heterocycles are similar (6.2 and 7.0), only 2-aminobenzimidazole led to active RNA cleavers. All cleavage assays were run with fluorescently labeled substrates and a DNA sequencer. RNase contaminations would degrade RNA enantioselectively. In contrast, achiral catalysts such as 9b and 10b necessarily induce identical cleavage patterns in RNA and its mirror image. This principle allowed the authors to safely rule out contamination effects in this study. The most active catalysts, tris(2-aminobenzimidazoles) 9b and 10b, were shown by fluorescence correlation spectroscopy (FCS) to aggregate with oligonucleotides. However, at very low concns. the compds. are still active in the nonaggregated state. Conjugates of 10b with antisense oligonucleotides or RNA binding peptides, therefore, will be promising candidates as site specific artificial RNases.

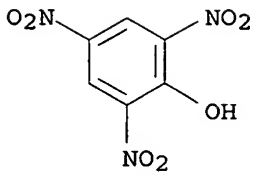
RX(24) OF 44 COMPOSED OF RX(6), RX(7)
RX(24) **Z** + **J** + K ===> **AB**



Z

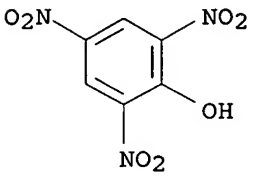


J

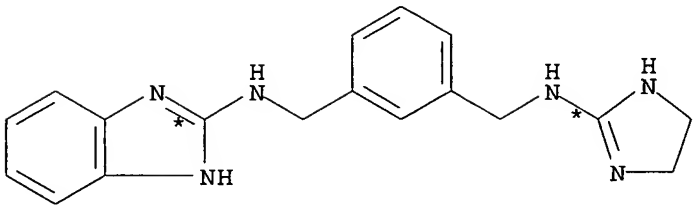


K

2 STEPS



AB: CM 1
YIELD 64%



AB: CM 2
YIELD 64%

RX(6) RCT Z **848408-57-1**
RGT V 21908-53-2 HgO
PRO AA 848408-58-2
CAT 7704-34-9 S
SOL 64-17-5 EtOH
CON 2 hours, room temperature -> reflux

RX(7) RCT AA 848408-58-2

STAGE(1)
RGT F 7647-01-0 HCl
SOL 67-56-1 MeOH
CON room temperature

STAGE(2)
RCT J **64205-92-1**
RGT M 121-44-8 Et3N
SOL 7732-18-5 Water, 67-56-1 MeOH
CON 8 hours, room temperature

STAGE(3)
RCT K 88-89-1
SOL 67-56-1 MeOH
CON reflux

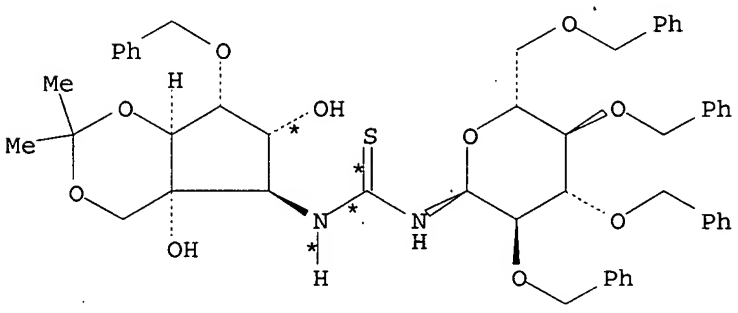
PRO AB **848408-72-0**

REFERENCE COUNT: 62 THERE ARE 62 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 11 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 143:188927 CASREACT
TITLE: Synthesis, inhibition properties, and theoretical study of the new nanomolar trehalase inhibitor 1-thiatrehazolin: Towards a structural understanding of trehazolin inhibition
AUTHOR(S): Chiara, Jose Luis; Storch de Gracia, Isabel; Garcia, Angela; Bastida, Agatha; Bobo, Sofia; Martin-Ortega, Maria D.
CORPORATE SOURCE: Instituto de Quimica Organica General, CSIC, Madrid, 28006, Spain
SOURCE: ChemBioChem (2005), 6(1), 186-191
CODEN: CBCHFX; ISSN: 1439-4227
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE: Journal
LANGUAGE: English

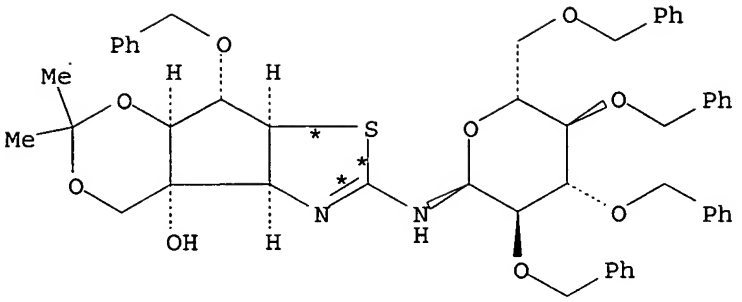
AB A new trehazolin analog, 1-thiatrehazolin, has been synthesized from carbohydrate precursors by a highly efficient route based on our previously developed ketone/oxime ether reductive carbocyclization reaction for the construction of the cyclitol ring and an intramol. nucleophilic displacement reaction for the construction of the thiazoline ring. 1-Thiatrehazolin is a very potent, slow, tight-binding trehalase inhibitor. A structural model for trehalase inhibition by trehazolin and its analogs, based on the exptl. results and supported by theor. calcns., is proposed.

RX(2) OF 10 ..**C** ===> **E**..



C

(2) →

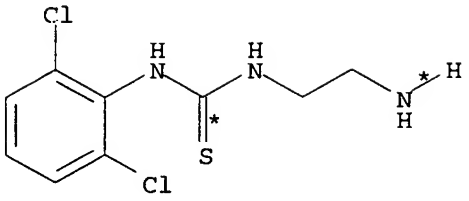


E
YIELD 93%

RX(2) RCT C 252209-36-2
RGT F 110-86-1 Pyridine, G 358-23-6 (F3CSO2)2O
PRO E 861896-97-1
SOL 75-09-2 CH2Cl2
CON 1 hour, -40 deg C
REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

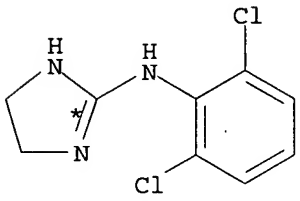
L47 ANSWER 12 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 141:410834 CASREACT
TITLE: A convenient method for the synthesis of 2-amino substituted aza-heterocycles from N,N'-disubstituted thioureas using TsCl/NaOH
AUTHOR(S): Heinelt, Uwe; Schultheis, Daniela; Jaeger, Siegfried; Lindenmaier, Marion; Pollex, Annett; Beckmann, Henning S. G.
CORPORATE SOURCE: Chemistry, Aventis, Frankfurt, 65926, Germany
SOURCE: Tetrahedron (2004), 60(44), 9883-9888
CODEN: TETRAB; ISSN: 0040-4020
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB P-Toluenesulfonyl chloride (TsCl)/NaOH has been introduced as reagent combination for the synthesis of 2-aminooxazolidines or 2-aminothiazolidines from N-(2-hydroxyethyl)thioureas, but its general application in heterocycle synthesis has not been investigated. In this paper the convenient and efficient synthesis of a variety of 2-amino-substituted 1-aza-3-(aza, oxa or thia) heterocycles of different substitution and ring sizes is described. The application of polymer-supported TsCl facilitates work-up and renders the reaction conditions very suitable for parallel or robot synthesis.

RX(7) OF 28 ...M ===> X



M

(7) →



X
YIELD 60%

RX(7) RCT M **65295-68-3**

STAGE(1)
RGT F **98-59-9** TsCl, G 1310-73-2 NaOH
SOL 7732-18-5 Water, 109-99-9 THF
CON SUBSTAGE(1) 1 hour, room temperature
SUBSTAGE(2) overnight, room temperature

STAGE(2)
SOL 75-09-2 CH2Cl2

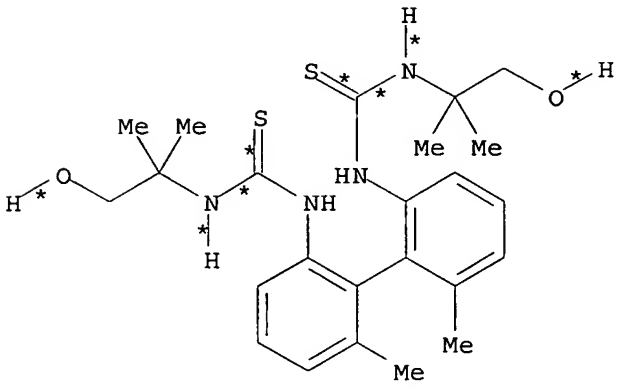
PRO X **4205-90-7**
NTE solid-supported reagent, ps -bound TsCl
REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

REPRINTED

L47 ANSWER 13 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 141:411028 CASREACT
TITLE: Chiral Complexes of a New Diazaallyl Ligand: Group 4 Aminooxazolinates
AUTHOR(S): Westmoreland, Ian; Munslow, Ian J.; Clarke, Adam J.; Clarkson, Guy; Scott, Peter
CORPORATE SOURCE: Department of Chemistry, University of Warwick, Coventry, CV4 7AL, UK
SOURCE: Organometallics (2004), 23(21), 5066-5074
CODEN: ORGND7; ISSN: 0276-7333
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A new biaryl-bridged bis(iminooxazolidine) proligand (I; H2L) was prepared

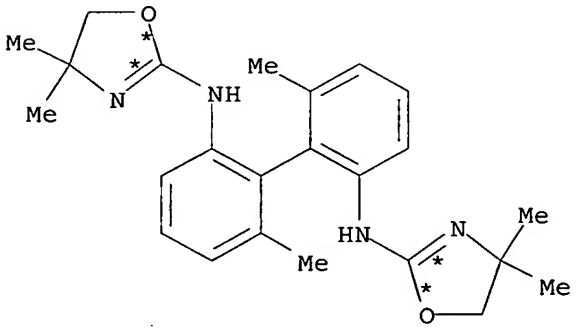
in good yield from 2,2-diamino-6,6'-dimethylbiphenyl. The direct reaction of H2L with [Ti(CH2Ph)4] leads via deprotonation of the ligand to the C2-sym. dibenzyl complex [LTi(CH2Ph)2] (85%) containing diazaallyl ligation. The analogous Group IVB [LZr(CH2Ph)2] (79%) and [LHf(CH2Ph)2] (91%) are similarly obtained. Mol. structures of these three compds. indicate C2-symmetry in all cases and that the chirality of the backbone is well expressed in the coordination sphere. Reaction of H2L with Ti(NMe2)4 gives the amide [LTi(NMe2)2] (90%), which on reaction with SiMe3Cl gives the chloride [LTiCl2] (78%). The dichloride [LZr(NMe2H)Cl2] was prepared via treatment of H2L with Zr(NMe2)2Cl2(THF)2 (86%). The direct reaction of H2L with TiCl4(THF)2 gives [(H2L)TiCl4] (83%), which is shown by x-ray crystallog. to contain intramol. NH···Cl H bond contacts. The complexes were tested as precatalysts for the polymerization of ethene and 1-hexene using a range of cocatalysts and display low activity. Correspondingly, NMR studies on a presumed active species [LZr(CH2Ph)][B(C6F5)3(CH2Ph)] were consistent with tight ion pairing on the NMR chemical shift time scale.

RX(3) OF 34 ...**F** ===> **H**...



F

(3) ⟶



H

YIELD 85%

RX(3) RCT F 792934-58-8

STAGE(1)
SOL 109-99-9 THF
CON room temperature

STAGE(2)
RGT I 1310-73-2 NaOH, J 98-59-9 TsCl
SOL 7732-18-5 Water, 109-99-9 THF
CON 15 hours, room temperature

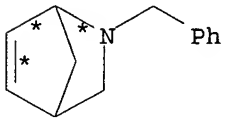
PRO H 792934-59-9
NTE in the dark

REFERENCE COUNT: 106 THERE ARE 106 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

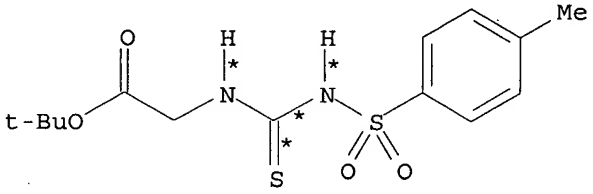
L47 ANSWER 14 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 141:332151 CASREACT
TITLE: A 1,3-Diaza-Claisen Rearrangement that Affords Guanidines
AUTHOR(S): Bowser, Amy M.; Madalengoitia, Jose S.
CORPORATE SOURCE: Department of Chemistry, University of Vermont, Burlington, VT, 05405, USA
SOURCE: Organic Letters (2004), 6(19), 3409-3412
CODEN: ORLEF7; ISSN: 1523-7060
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB N-Alkyl-N'-tosylthioureas activated by EDCI react with azanorbonenes at room temperature through a 1,3-diaza-Claisen rearrangement, affording highly substituted, bicyclic guanidines in moderate to good yields. Thus, the diaza-Claisen rearrangement of 2-(phenylmethyl)-2-azabicyclo[2.2.1]hept-5-ene (I) 4-methyl-N-[[(phenylmethyl)amino]thioxomethyl]benzenesulfonamide (N-benzyl-N'-tosylthiourea) (II) gave a bicyclic guanidine derivative (III).

RX(13) OF 42 ...D + R ===> AA

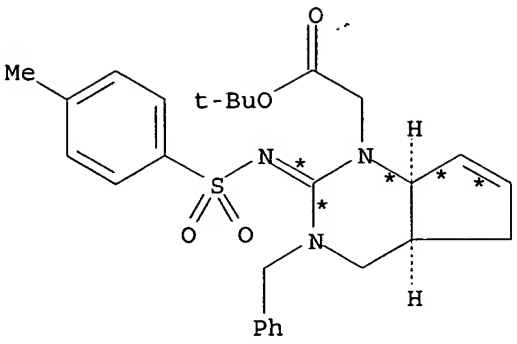


D



R

(13)



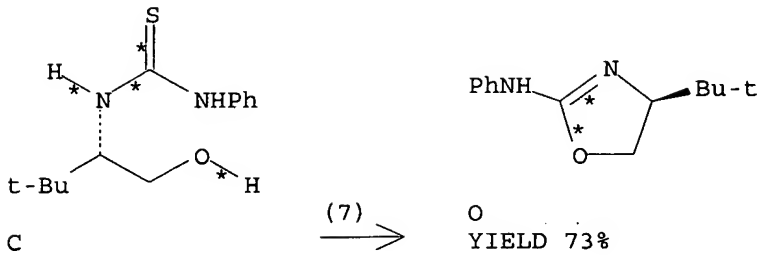
AA
YIELD 71%

RX(13) RCT D 112375-05-0, R 773147-12-9
RGT S 7087-68-5 EtN(Pr-i)2, X 25952-53-8 EDAP
PRO AA 773147-16-3
SOL 67-66-3 CHCl3
CON overnight, room temperature
NTE regioselective, stereoselective, zwiterionic 1,3-diaza-Claisen rearrangement
REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

PRINTED

L47 ANSWER 15 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 142:114243 CASREACT
TITLE: Aminooxazolinate; a chiral amidinate analogue
AUTHOR(S): Munslow, Ian J.; Wade, Andrew R.; Deeth, Robert J.; Scott, Peter
CORPORATE SOURCE: Department of Chemistry, University of Warwick, Coventry, UK
SOURCE: Chemical Communications (Cambridge, United Kingdom) (2004), (22), 2596-2597
CODEN: CHCOFS; ISSN: 1359-7345
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
AB High levels of diastereoselection with respect to chirality-at-metal are achieved at equilibrium for complexes containing a new and available range of diazaallyl ligands. For example, (S)-2-(3,5-dimethyl)phenylamino-4-tert-butyloxazoline (HL) was prepared and reacted with Zr(CH2Ph)4 giving (Δ,SC)-[ZrL2(CH2Ph)2] (1) in 84% yield. The structure of 1 was established by x-ray crystallog. and DFT calcns.

RX(7) OF 38 ..C ===> O..



RX(7) RCT C 821775-10-4
RGT P 1310-73-2 NaOH, Q 98-59-9 TsCl
PRO O 821775-06-8
SOL 7732-18-5 Water, 109-99-9 THF
CON SUBSTAGE(1) 5 minutes, room temperature
SUBSTAGE(2) overnight, room temperature
REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

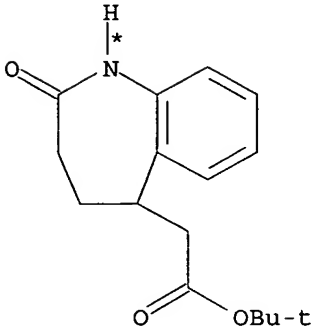
L47 ANSWER 16 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 139:143331 CASREACT
TITLE: Design and synthesis of 1,5- and 2,5-substituted tetrahydrobenzazepinones as novel potent and selective integrin αVβ3 antagonists
AUTHOR(S): Kling, Andreas; Backfisch, Gisela; Delzer, Jurgen; Geneste, Herve; Graef, Claudia; Hornberger, Wilfried; Lange, Udo E. W.; Lauterbach, Arnulf; Seitz, Werner; Subkowski, Thomas
CORPORATE SOURCE: Discovery Research, Abbott GmbH and Co KG, Neuroscience, Medicinal Chemistry, Ludwigshafen, D-67008, Germany
SOURCE: Bioorganic & Medicinal Chemistry (2003), 11(7), 1319-1341
CODEN: BMECEP; ISSN: 0968-0896
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The design and synthesis of novel integrin αVβ3 antagonists based on a 1,5- or 2,5-substituted tetrahydrobenzaezpinone core is described. In vitro activity of resp. compds. was determined via αVβ3 binding assay, and selected derivs. were submitted to further characterization in functional cellular assays. SAR was obtained by modification of the benzazepinone core, variation of the spacer linking guanidine moiety and core, and modification of the guanidine mimetic. These efforts led to the identification of novel αVβ3 inhibitors displaying potency in the subnanomolar range, selectivity vs. αIIbβ3 and functional efficacy in relevant cellular assays. A method for the preparation of enantiomerically pure derivs. was developed, and resp. enantiomers evaluated in vitro. Compds. 31 and 37 were assessed for metabolic stability, resorption in the Caco-2 assay and pharmacokinetics.

RX(328) OF 714 COMPOSED OF REACTION SEQUENCE RX(3), RX(108)

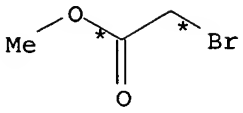
AND REACTION SEQUENCE RX(97), RX(12), RX(108)

...I + N ===> O...

... **AN** + O ===> **CB**

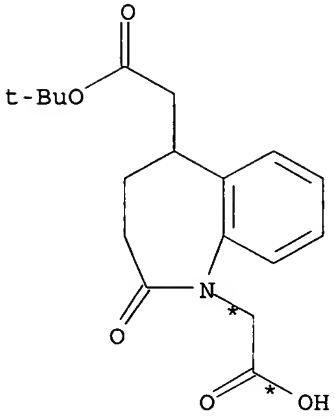


I



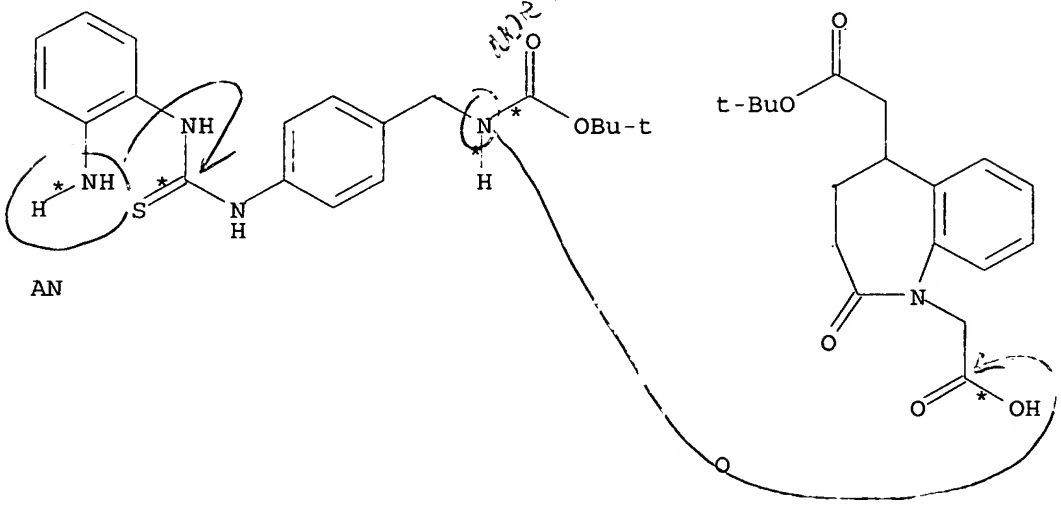
N

3 STEPS



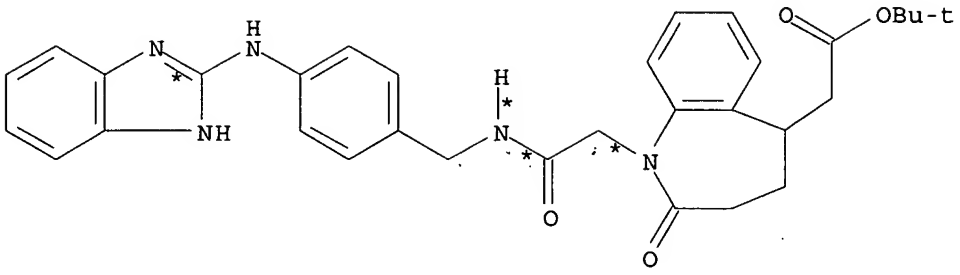
O

START NEXT REACTION SEQUENCE



AN

3
STEPS
→



CB
YIELD 73%

RX(3) RCT I 380394-63-8

STAGE(1)
RGT C 7646-69-7 NaH
SOL 68-12-2 DMF
CON SUBSTAGE(1) 10 - 20 deg C
SUBSTAGE(2) 1 hour, 10 - 20 deg C

STAGE(2)
RCT N 96-32-2
CON SUBSTAGE(1) 10 - 20 deg C
SUBSTAGE(2) 12 hours, 10 - 20 deg C

STAGE(3)
RGT P 1310-73-2 NaOH
SOL 7732-18-5 Water, 123-91-1 Dioxane
CON SUBSTAGE(1) room temperature
SUBSTAGE(2) 45 minutes, room temperature

STAGE(4)
RGT Q **7646-93-7** KHSO4
SOL 7732-18-5 Water
CON room temperature, pH 7

PRO O 380394-64-9

RX(97) RCT AN **302341-66-8**
RGT AZ 21908-53-2 HgO, BA 7704-34-9 S
PRO AQ 326410-47-3
SOL 64-17-5 EtOH
CON 2 hours, room temperature -> reflux

RX(12) RCT AQ 326410-47-3

RGT AJ 7647-01-0 HCl
PRO AR 570360-60-0
SOL 60-29-7 Et2O, 75-09-2 CH2Cl2
CON 2 hours, room temperature

RX(108) RCT O 380394-64-9, AR 570360-60-0

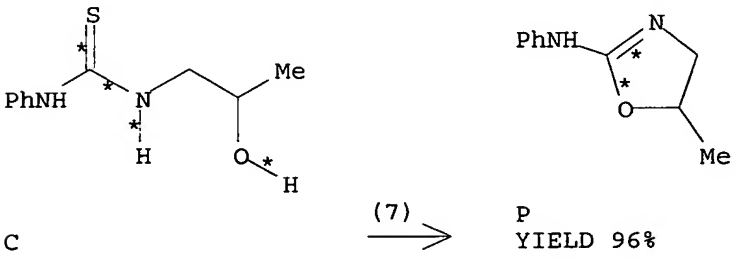
STAGE(1)
RGT CJ 109-02-4 N-Methylmorpholine
SOL 68-12-2 DMF
CON room temperature

STAGE(2)
RGT CK 136849-72-4 Methanaminium, N-[[[(1-cyano-2-ethoxy-2-oxoethylidene)amino]oxy](dimethylamino)methylene]-N-methyl-, tetrafluoroborate(1-)
CON SUBSTAGE(1) 30 minutes, room temperature
SUBSTAGE(2) 1 hour, room temperature

PRO CB **380396-14-5**
REFERENCE COUNT: 71 THERE ARE 71 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 17 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 141:23452 CASREACT
TITLE: 2-Phenylamino-2-oxazolines from N-(2-hydroxyethyl)-N-phenylthioureas using TsCl/NaOH
AUTHOR(S): Na, Hye-Sun; Kim, Taek Hyeon
CORPORATE SOURCE: Department of Applied Chemistry and The Research Institute for Catalysis, Chonnam National University, Gwangju, 500-757, S. Korea
SOURCE: Journal of the Korean Chemical Society (2003), 47(6), 671-674
CODEN: JKCSEZ; ISSN: 1017-2548
PUBLISHER: Korean Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: Korean
AB Cyclization of N-(2-hydroxyethyl)-N-phenylthioureas with TsCl/NaOH in THF at room temperature for 30 min gave 2-phenylamino-2-oxazolines. For example, 4,5-dihydro-5-methyl-N-phenyl-2-oxazolamine was prepared in 96% yield from N-(2-hydroxypropyl)-N'-phenylthiourea.

RX(7) OF 18 ...**C** ===> **P**



C P
YIELD 96%

RX(7) RCT C **29146-64-3**

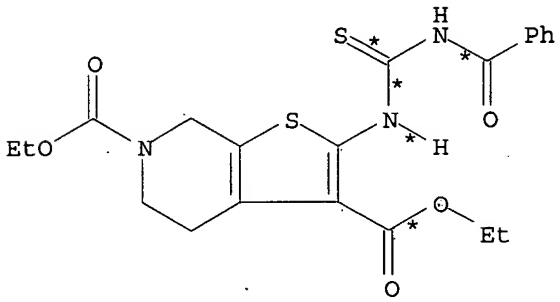
STAGE(1)
RGT Q **98-59-9** TsCl, R 1310-73-2 NaOH
SOL 7727-37-9 N2, 109-99-9 THF
CON 30 minutes, room temperature

STAGE(2)
RGT S 7732-18-5 Water
CON room temperature

PRO P **27151-02-6**

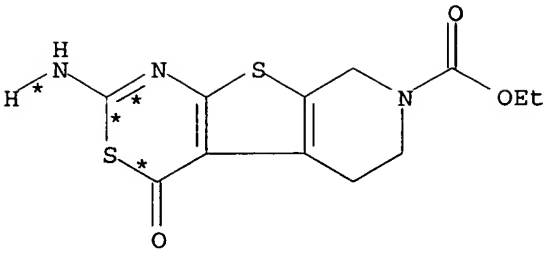
L47 ANSWER 18 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 139:22185 CASREACT
TITLE: Synthesis of Some New Pyrido[4',3':4,5]thieno[2,3-d]pyrimidines and Related Fused Heterocycles
AUTHOR(S): Ahmed, Essam Kh.
CORPORATE SOURCE: Minia University, El-Minia, Egypt
SOURCE: Phosphorus, Sulfur and Silicon and the Related Elements (2003), 178(1), 1-16
CODEN: PSSLEC; ISSN: 1042-6507
PUBLISHER: Taylor & Francis Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A highly efficient and versatile synthetic approach to the synthesis of pyrido[4',3':4,5]thieno[2,3-d]pyrimidines, pyrido[4',3':4,5]thieno[2,3-d][1,3]thiazolo[3,2-a]pyrimidines, pyrido[4'',3'':4',5']thieno[2',3':4,5]pyrimido[2,1-b][1,3]thiazine, and polymethylene condensed (e.g., pyrrolo-, piperidino-, azepino-)pyridothienopyrimidines is described utilizing di-Et 2-amino-4,5,6,7-tetrahydrothieno[2,3-c]pyridine-3,6-dicarboxylate as the starting material.

RX(2) OF 49 ...**A** ===> **G**



(2)

A



G
YIELD 82%

RX(2) RCT A 538370-01-3

STAGE(1)
RGT H 7664-93-9 H2SO4
SOL 7732-18-5 Water
CON 2 days, room temperature

STAGE(2)
SOL 7732-18-5 Water
CON room temperature

STAGE(3)
RGT I 144-55-8 NaHCO3
SOL 7732-18-5 Water
CON room temperature

PRO G 538370-02-4
REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L47 ANSWER 19 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 136:151166 CASREACT
TITLE: Preparation of imidazoisoquinolinones as inhibitors of tyrosine kinases
INVENTOR(S): Snow, Roger John; Cardozo, Mario; Goldberg, Daniel; Hammach, Abdelhakim; Morwick, Tina; Moss, Neil; Patel, Usha R.; Prokopowicz, Anthony S.; Takahashi, Hidenori; Tschantz, Matt Aaron; Wang, Xiao-Jun
PATENT ASSIGNEE(S): Boehringer Ingelheim Pharmaceuticals, Inc., USA
SOURCE: U.S. Pat. Appl. Publ., 62 pp., Cont.-in-part of U.S. Ser. No. 679,156.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

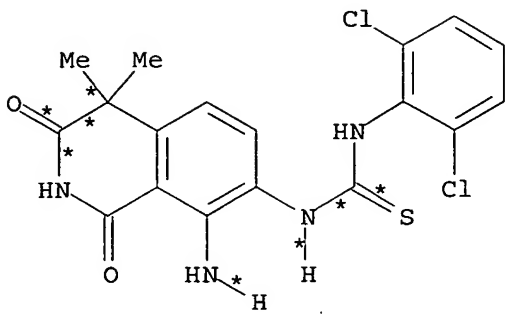
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002016460	A1	20020207	US 2001-921509	20010802

US 6506769	B2	20030114		
US 2003166929	A1	20030904	US 2002-292026	20021112
US 6770639	B2	20040803		
PRIORITY APPLN. INFO.:			US 1999-157922P	19991006
			US 2000-679156	20001005
			US 2001-921509	20010802

OTHER SOURCE(S): MARPAT 136:151166

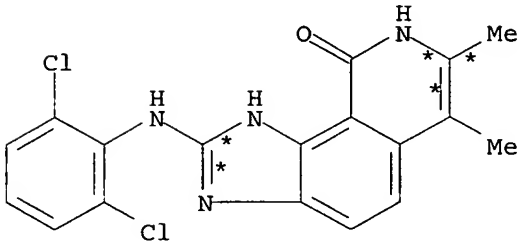
AB The title compds. [I; Ar1 = (un)substituted (non)aromatic carbocyclyl, heteroaryl, heterocyclyl; X = NH, N(alkyl), O, etc.; Y = NR15, S, O; Ra = H, alkyl, alkenyl, etc.; R4 and R5 together with the atoms to which they are attached = II, III (wherein R6 = alkyl, H; R7 = alkyl, H; R8 = H, alkyl, etc.; R9 = H, CN, etc.)], useful as inhibitors of certain protein tyrosine kinases and are thus useful for treating diseases associated with such kinases, for example, diseases resulting from inappropriate cell proliferation, which include autoimmune diseases, chronic inflammatory diseases, allergic diseases, transplant rejection and cancer, as well as conditions resulting from cerebral ischemia, such as stroke, were prepared All exemplified compds. I were evaluated in the tyrosine kinase assay using a kinase such a p56lck and were found to have IC50's less than 10 μM. Methods of preparation are claimed and 29 example prepns. are included. E.g., a multi-step synthesis of the imidazoisoquinolinedione IV was given. Claimed methods include: a method of making I wherein X is N-R15 and Ar1, R4, R5, R15and Ra are as defined in claim 1, said process comprising: (a) reacting a phenylenediamine with Ar1NCS in a suitable solvent at about ambient to reflux temperature for .apprx.3 to 24 h to provide a possibly substituted N-(o-aminophenyl)thiourea (b) reacting this product with a suitable activating agent chosen from 1,3-dicyclohexylcarbodiimide (DCC) and mercuric oxide in a suitable solvent at about ambient to reflux temperature Also, a method of making I wherein X is S, Y is NH and Ar1, R4, R5 and Ra are as defined in claim 1, said process comprising: (a) reacting an aniline with Ar1NCS in a suitable solvent at about ambient to reflux temperature for .apprx.3 to 24 h to form a thiourea; (b) reacting this product under cyclizing conditions in a suitable solvent at about reflux temperature Also, a method of making V wherein R15, R8 and R9 are as described in claim 1, said method comprising: (a) reacting 2,6-dichloro-3-nitrobenzonitrile with NHR15 in a suitable solvent optionally in a pressure flask and at .apprx.0 to 80°, to provide 2-R15NH-3-nitro-6-chlorobenzonitriles, and subsequently reacting these compds. with ketoester R9C(O)CHR8CO2Et in the presence of a suitable base in a suitable solvent, at about ambient temperature to form 2-NC-3-R15NH-4-O2NC6H2CR8(C(O)R9)CO2Et (b) hydrolyzing this product by reacting with aqueous acid, and cyclizing at about reflux temperature; followed by reducing the cyclized product in a suitable solvent. Also, a method of making VI wherein Ra, R8, R9 and Ar1 are as described in claim 1, said method comprising: (a) reacting a phenylenediamine with Br2 in a suitable solvent at ambient temperature to provide a brominated ring product; (b) reacting this product with Ar1NCS in a suitable solvent at about ambient to reflux temperature for .apprx.3 to 24 h and subsequently reacting the product with a suitable activating agent chosen from DCC and mercuric oxide in a suitable solvent at about ambient to reflux temperature to form VI with Ra = Br; (c) cross-coupling to introduce Ra in place of Br in the presence of a suitable catalyst in a suitable solvent at .apprx.100°.

RX(129) OF 348 COMPOSED OF RX(1), RX(35), RX(3)
RX(129) **A** ===> **J**



A

3
STEPS



J
YIELD 84%

RX(1) RCT A **333458-24-5**
RGT C 538-75-0 DCC
PRO B 333455-06-4
SOL 109-99-9 THF

RX(35) RCT B 333455-06-4

STAGE(1)
RGT G 16940-66-2 NaBH4
CAT 7732-18-5 Water
SOL 109-99-9 THF

STAGE(2)
RGT CO 7647-01-0 HCl
SOL 7732-18-5 Water

STAGE(3)
RGT I 144-55-8 NaHCO3

PRO E 333458-25-6

RX(3) RCT E 333458-25-6

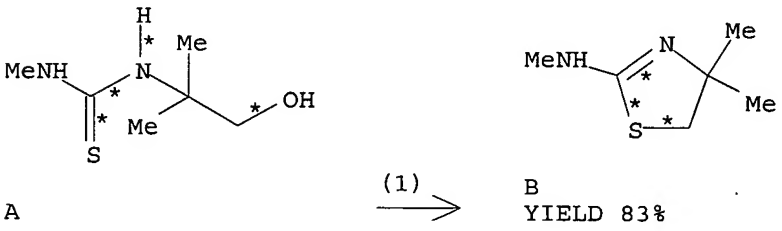
STAGE(1)
RGT K 7664-93-9 H2SO4
SOL 7664-93-9 H2SO4

STAGE(2)
RGT I 144-55-8 NaHCO3

PRO J 333455-11-1

L47 ANSWER 20 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 138:338107 CASREACT
TITLE: N-Acyl-4,5-dihydro-4,4-dimethyl-N-methyl-2-thiazolamine as a chemoselective acylating agent
AUTHOR(S): Kim, Taek Hyeon; Yang, Garp-Yeol
CORPORATE SOURCE: Faculty of Applied Chemistry, Chonnam National University, Gwangju, 500-757, S. Korea
SOURCE: Tetrahedron Letters (2002), 43(52), 9553-9557
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB 4,5-Dihydro-N-methyl-2-thiazolamine and 4,5-dihydro-N,4,4-trimethyl-2-thiazolamine reacted with acyl halides to produce N-acyl-2-methylamino-2-thiazolines, (exo-acylated products) regioselectively; these were found to be highly chemoselective acylating agents for primary amine in the presence of secondary amine and for the less sterically hindered of two different primary amines. The N-acyldihydrothiazolamine acylation agents I (R = H, Me; R1 = Me, Et, tert-butyl) thus prepared included N-(4,5-dihydro-2-thiazolyl)-N-methylpropanamide, N-(4,5-dihydro-4,4-dimethyl-2-thiazolyl)-N-methylacetamide, N-(4,5-dihydro-4,4-dimethyl-2-thiazolyl)-N-methylpropanamide, and N-(4,5-dihydro-4,4-dimethyl-2-thiazolyl)-N,2,2-trimethylpropanamide.

RX(1) OF 47 A ===> B...



A B
YIELD 83%

RX(1) RCT A 226989-34-0

STAGE(1)
RGT C 98-59-9 TsCl, D 1310-73-2 NaOH
SOL 109-99-9 THF, 7732-18-5 Water
CON SUBSTAGE(1) 5 minutes, room temperature
SUBSTAGE(2) 30 minutes, room temperature

STAGE(2)

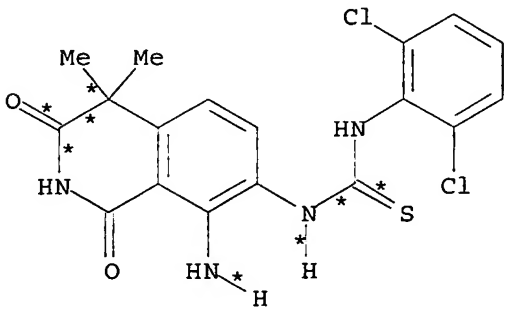
RGT E 7732-18-5 Water
CON room temperature

PRO B **125101-37-3**
REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 21 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 137:194995 CASREACT
TITLE: Discovery of 2-Phenylamino-imidazo[4,5-h]isoquinolin-9-ones: A New Class of Inhibitors of Lck Kinase
AUTHOR(S): Snow, Roger J.; Cardozo, Mario G.; Morwick, Tina M.; Busacca, Carl A.; Dong, Yong; Eckner, Robert J.; Jacober, Stephen; Jakes, Scott; Kapadia, Suresh; Lukas, Susan; Panzenbeck, Maret; Peet, Gregory W.; Peterson, Jeffrey D.; Prokopowicz, Anthony S., III; Sellati, Rosemarie; Tolbert, Robert M.; Tschantz, Matt A.; Moss, Neil
CORPORATE SOURCE: Departments of Medicinal Chemistry, Chemical Development, Biology, Pharmacology, and Information Technology, Boehringer Ingelheim Pharmaceuticals Inc., Ridgefield, CT, 06877, USA
SOURCE: Journal of Medicinal Chemistry (2002), 45(16), 3394-3405
CODEN: JMCMAR; ISSN: 0022-2623
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

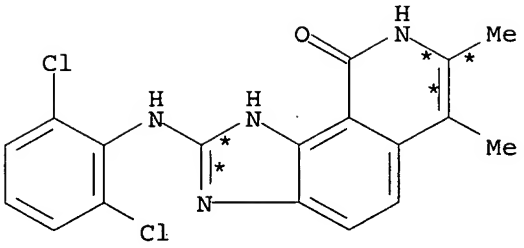
AB An imidazo[4,5-h]isoquinolin-7,9-dione (I) was identified as an ATP competitive inhibitor of lck by high throughput screening. Initial structure-activity relation studies identified the dichlorophenyl ring and the imide NH as important pharmacophores. A binding model was constructed to understand how I binds to a related kinase, hck. These results suggested that removing the gem-di-Me group and flattening the ring would enhance activity. This was realized by converting I to the imidazo[4,5-h]isoquinolin-9-one, resulting in an 18-fold improvement in potency against lck and a 50-fold increase in potency in a cellular assay.

RX(74) OF 222 COMPOSED OF RX(1), RX(13), RX(16)
RX(74) **A** ===> **AS**



3
STEPS

A



AS
YIELD 84%

RX(1) RCT A **333458-24-5**
RGT C 538-75-0 DCC
PRO B 333455-06-4
SOL 109-99-9 THF

RX(13) RCT B 333455-06-4
RGT AN 16940-66-2 NaBH4, K 7732-18-5 Water
PRO AM 333458-25-6
SOL 109-99-9 THF

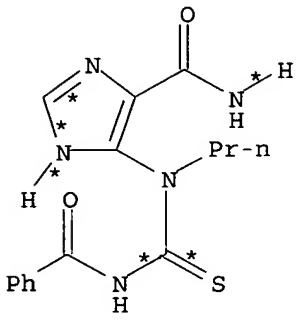
RX(16) RCT AM 333458-25-6
RGT M **7664-93-9** H2SO4
PRO AS **333455-11-1**

REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

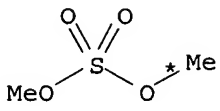
L47 ANSWER 22 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 138:137075 CASREACT
TITLE: Synthesis and cyclic AMP phosphodiesterase 4 isoenzyme inhibitory activity of heterocycle condensed purines
AUTHOR(S): Suzuki, Hirokazu; Yamamoto, Manabu; Shimura, Susumu; Miyamoto, Ken-ichi; Yamamoto, Kenji; Sawanishi, Hiroyuki
CORPORATE SOURCE: Department of Synthetic Chemistry, Hokuriku University, Kanazawa, 920-1181, Japan
SOURCE: Chemical & Pharmaceutical Bulletin (2002), 50(9), 1163-1168
CODEN: CPBTAL; ISSN: 0009-2363
PUBLISHER: Pharmaceutical Society of Japan
DOCUMENT TYPE: Journal
LANGUAGE: English

AB To reverse the adverse reactions of alkylxanthines and to develop novel inhibitors of cAMP phosphodiesterase 4 (PDE4), a series of heterocycle [a]-, [b]-, [c,d]-, and [i]-condensed purines were designed and synthesized. Although all compds. did not display PDE1 and PDE3 inhibitory activities, several heterocycle [i]-condensed purines strongly inhibited PDE4. Especially, dl-3,4-dipropyl-8-methyl-4,5,7,8-tetrahydro-1H-imidazo[2,1-i]purin-5-one (I) exhibited comparable PDE4 inhibitory activity (IC50=1.9 μM) to rolipram and denbufylline (DBF).

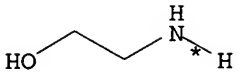
RX(62) OF 114 COMPOSED OF RX(7), RX(8), RX(19)
RX(62) **U** + **Z** + AL ===> **A**



U

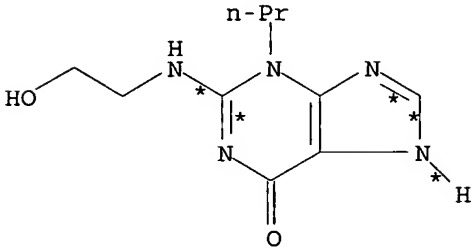


Z



AL

3
STEPS



A
YIELD 83%

RX(7) RCT U **492439-30-2**

STAGE(1)
RGT W 1310-73-2 NaOH
SOL 7732-18-5 Water
CON SUBSTAGE(1) room temperature -> reflux
SUBSTAGE(2) 3 hours, reflux

STAGE(2)
RGT X 7647-01-0 HCl
SOL 7732-18-5 Water

PRO V 156733-29-8

RX(8) RCT V 156733-29-8, Z **77-78-1**

STAGE(1)
RGT W 1310-73-2 NaOH
SOL 7732-18-5 Water

CON 1 hour, room temperature

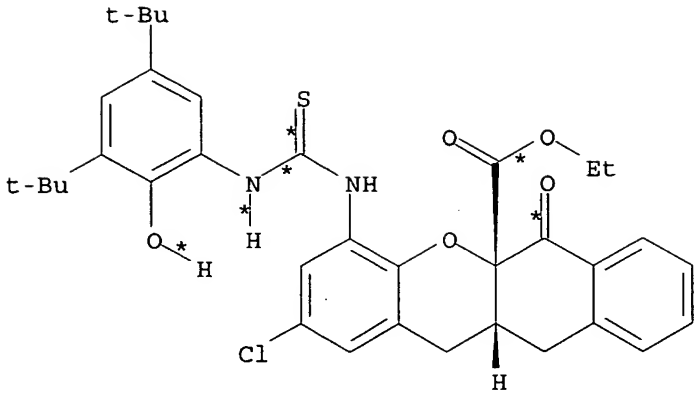
STAGE(2)
RGT AB 64-19-7 AcOH

PRO AA 492439-33-5

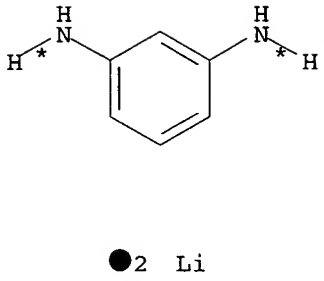
RX(19) RCT AA 492439-33-5, AL 141-43-5
PRO A **492439-59-5**
SOL 110-86-1 Pyridine
CON overnight, reflux
REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 23 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 137:247890 CASREACT
TITLE: Enantioselective recognition of α-amino acid derivatives with a cis-tetrahydrobenzoxanthene receptor
AUTHOR(S): Oliva, Ana I.; Simon, Luis; Hernandez, Jose V.; Muniz, Francisco M.; Lithgow, Anna; Jimenez, Alicia; Moran, Joaquin R.
CORPORATE SOURCE: Departamento de Quimica Organica, Universidad de Salamanca, Salamanca, E-37008, Spain
SOURCE: Journal of the Chemical Society, Perkin Transactions 2 (2002), (6), 1050-1052
CODEN: JCSPGI; ISSN: 1472-779X
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The synthesis of receptor I (R1 = OEt) was performed via oxidative intramol. cyclization in several conventional synthetic steps, including separation of trans isomer of racemic intermediate by crystallization, and its structure was secured through X-ray diffraction anal. The cis-tetrahydrobenzoxanthene receptor I (R1 = NH-mC6H5NHSO2CF3) was prepared in high yield by transformation of receptor I (R1 = OEt). Competitive 1H-NMR titrns. were carried out by adding small amts. of the enantiomeric pure guests (amino acid derivs.) to a deuterochloroform solution of the racemic host I (R1 = NH-mC6H5NHSO2CF3). Titration of guests revealed the importance of the amino acid side chain and the carbamoyl substituent. Benzyloxycarbonyl derivs. provide the best substrates, with chiral recognitions of up to 15 (with Cbz-phenylglycine), while steric hindrance from the tert-Bu group probably yields Boc derivs. with small association consts. and poor enantioselectivities.

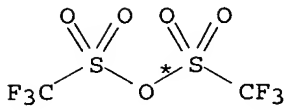
RX(21) OF 55 COMPOSED OF RX(9), RX(1), RX(10), RX(2)
RX(21) **AB** + AF + **F** ===> **G**



AB

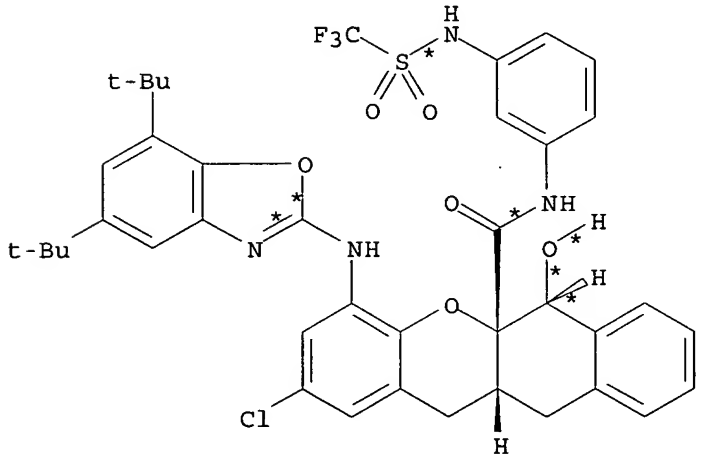


AF



F

4
STEPS



G
YIELD 88%

RX(9) RCT AB **460061-25-0**
RGT AC 74-88-4 MeI, AD 108-75-8 s-Collidine
PRO A 460061-26-1
SOL 64-17-5 EtOH, 109-99-9 THF

RX(1) RCT A 460061-26-1
RGT C 54575-49-4 K Selectride
PRO B 460061-19-2
SOL 109-99-9 THF

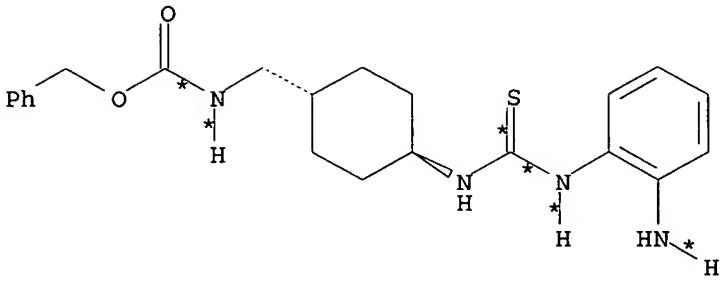
RX(10) RCT B 460061-19-2, AF 240134-75-2
PRO E 460061-27-2
SOL 109-99-9 THF

RX(2) RCT E 460061-27-2, F **358-23-6**
PRO G **460061-20-5**
SOL 108-88-3 PhMe
REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

PRINTED

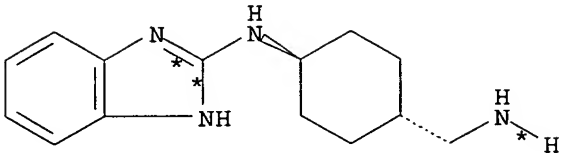
L47 ANSWER 24 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 137:103383 CASREACT
TITLE: Synthesis and SAR of N-substituted dibenzazepinone derivatives as novel potent and selective αVβ3 antagonists
AUTHOR(S): Kling, Andreas; Backfisch, Gisela; Delzer, Jurgen; Geneste, Herve; Graef, Claudia; Holzenkamp, Uta; Hornberger, Wilfried; Lange, Udo E. W.; Lauterbach, Arnulf; Mack, Helmut; Seitz, Werner; Subkowski, Thomas
CORPORATE SOURCE: Knoll GmbH, Ludwigshafen, D-67008, Germany
SOURCE: Bioorganic & Medicinal Chemistry Letters (2002), 12(3), 441-446
CODEN: BMCLE8; ISSN: 0960-894X
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Substituted oxodibenzazepineacetic acids substituted with guanidines or guanidine pharmacophores such as I are prepared as potential αVβ3 (vitronectin receptor) antagonists. The oxodibenzazepineacetic acid core II is prepared in 5 steps from 9,10-anthraquinone; coupling of II with guanidine or guanidine pharmacophore-substituted amines such as III followed by hydrolysis of the Me ester yields compds. such as I. Structure-activity relationships are determined for the guanidine or guanidine pharmacophore-substituted oxodibenzazepineacetic acids, varying the linker between the guanidine pharmacophore and the oxodibenzazepine and the choice of guanidine pharmacophore. Compound I and a second guanidine pharmacophore-substituted oxodibenzazepineacetic acid are found to be highly active inhibitors of the vitronectin receptor in vitro and are found to be bioavailable in ADME assays.

RX(295) OF 330 COMPOSED OF REACTION SEQUENCE RX(4), RX(5)
AND REACTION SEQUENCE RX(6), RX(7), RX(8), RX(9), RX(5)
... **L** ===> O...
...Z + AE + AH + O ===> **V**



L

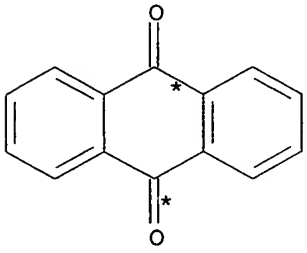
5 STEPS



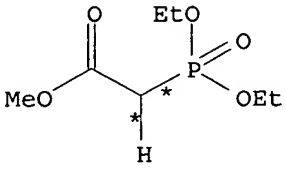
●2 HBr

O

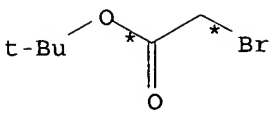
START NEXT REACTION SEQUENCE



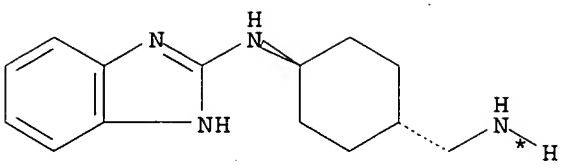
Z



AE



AH



●2 HBr

5
STEPS

O

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

RX(4) RCT L **443330-59-4**

STAGE(1)
RGT P 21908-53-2 HgO, Q 7704-34-9 S
SOL 64-17-5 EtOH

STAGE(2)
RGT R 10035-10-6 HBr
SOL 64-19-7 AcOH

PRO O 443330-62-9
NTE stereoselective

RX(6) RCT Z 84-65-1
RGT AB 26628-22-8 NaN3, AC **7664-93-9** H2SO4
PRO AA 1143-50-6
SOL 7732-18-5 Water

RX(7) RCT AA 1143-50-6, AE 1067-74-9
RGT AG 7646-69-7 NaH
PRO AF 90664-74-7
SOL 68-12-2 DMF

RX(8) RCT AF 90664-74-7, AH 5292-43-3
RGT AG 7646-69-7 NaH
PRO AI 326404-40-4
SOL 68-12-2 DMF

RX(9) RCT AI 326404-40-4

STAGE(1)
RGT AJ 1333-74-0 H2
CAT 7440-05-3 Pd
SOL 67-56-1 MeOH

STAGE(2)
RGT AK 76-05-1 F3CCO2H
SOL 75-09-2 CH2Cl2

PRO U 326404-49-3
NTE high pressure in first stage

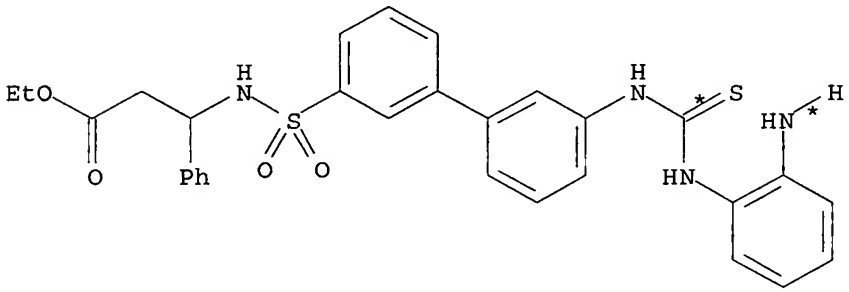
RX(5) RCT U 326404-49-3, O 443330-62-9
RGT W 25952-53-8 EDAP, X 7087-68-5 EtN(Pr-i)2
PRO V **443331-93-9**
SOL 75-09-2 CH2Cl2, 68-12-2 DMF
NTE stereoselective

REFERENCE COUNT: 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

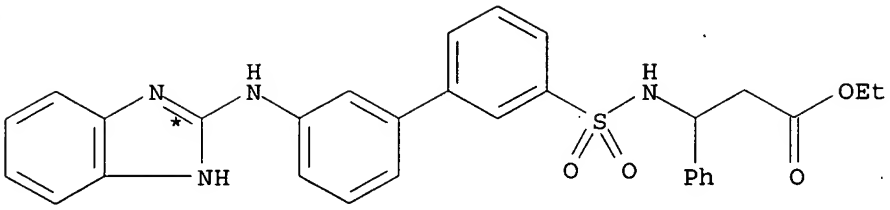
L47 ANSWER 25 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 136:379462 CASREACT
TITLE: Biphenyls as potent vitronectin receptor antagonists
AUTHOR(S): Urbahns, Klaus; Harter, Michael; Albers, Markus; Schmidt, Delf; Stelte-Ludwig, Beatrix; Bruggemeier, Ulf; Vaupel, Andrea; Gerdes, Christoph
CORPORATE SOURCE: Pharma Research Centre, Institute of Medicinal Chemistry, Bayer AG, Wuppertal, D-42096, Germany
SOURCE: Bioorganic & Medicinal Chemistry Letters (2002), 12(2), 205-208
CODEN: BMCLE8; ISSN: 0960-894X
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Vitronectin receptor (αVβ3) antagonism has been implicated as a mechanism for the treatment of restenosis following balloon angioplasty. In this work the authors present results from screening of a focused combinatorial library based on a biphenyl moiety. Our SAR studies led to the identification of compds. with subnanomolar activity, selectivity towards the related GPIIbIIIa receptor and functional activity on human smooth muscle cell migration.

RX(2) OF 13 ...**D** ===> **G**



D (2) →

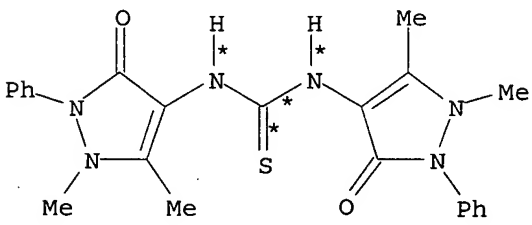


G

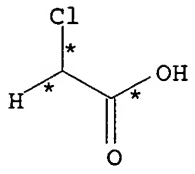
RX(2) RCT D 276258-86-7
RGT H 21908-53-2 HgO
PRO G 276258-87-8
SOL 67-66-3 CHCl3
REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 26 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 138:271578 CASREACT
TITLE: Synthesis and antiinflammatory activity of novel 3-(2,3-dimethyl-1-phenyl-4-pyrazolon-5-yl)-4-thiazolidones
AUTHOR(S): Lesyk, R.; Vladzimirska, O.; Zimenkovsky, B.; Golota, S.; Nektgayev, I.; Cherpak, O.; Leb'yak, M.; Kozak, O.
CORPORATE SOURCE: Department of Pharmaceutical, Organic and Bioorganic Chemistry, Lviv State Medical University, Lviv-10, Ukraine
SOURCE: Bollettino Chimico Farmaceutico (2002), 141(3), 197-201
CODEN: BCFAAI; ISSN: 0006-6648
PUBLISHER: Societa Editoriale Farmaceutica
DOCUMENT TYPE: Journal
LANGUAGE: English
AB New 3-(2,3-dimethyl-1-phenyl-4-pyrazolon-5-yl)-4-thiazolidones were synthesized. The structure of substances was supported by UV- and 1H-NMR spectra. Some compds. were tested in vivo for their anti-inflammatory activity. Previous results about structure-activity relationships were confirmed.

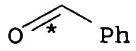
RX(2) OF 26 **A** + B + F ===> **G**...



A

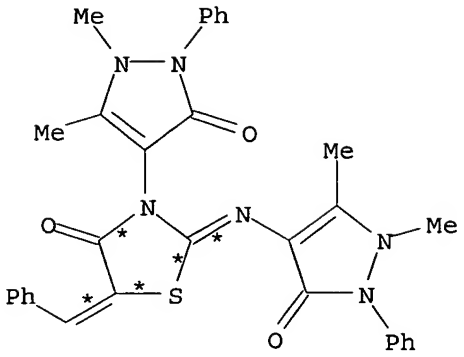


B



F

(2)



G
YIELD 61%

RX(2) RCT A **26084-35-5**, B 79-11-8, F 100-52-7

STAGE(1)
RGT D 127-09-3 AcONa
SOL 64-19-7 AcOH
CON 7 hours, reflux

STAGE(2)
SOL 7732-18-5 Water

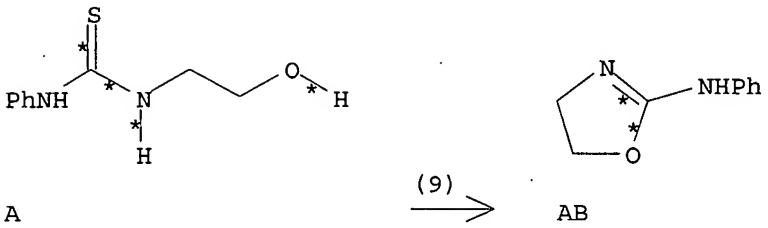
STAGE(3)
RGT H **7631-90-5** NaHSO3
SOL 7732-18-5 Water

PRO G **314250-44-7**
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 27 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 137:6121 CASREACT
TITLE: Investigation of the cyclization of N-(2-hydroxyethyl)-N'-phenylthioureas: Mitsunobu conditions vs. TsCl/NaOH system
AUTHOR(S): Lee, Gue-Jae; Kim, Jae Nyoung; Kim, Taek Hyeon
CORPORATE SOURCE: Faculty of Applied Chemistry, Chonnam National University, Kwangju, 500-757, S. Korea
SOURCE: Bulletin of the Korean Chemical Society (2002), 23(1), 19-20
CODEN: BKCSDE; ISSN: 0253-2964
PUBLISHER: Korean Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Reaction of N-(2-hydroxyethyl)-N'-phenylthioureas under Mitsunobu conditions gave N- and S-cyclized products; in the TsCl/NaOH system 2-amino-2-oxazolines were formed via carbodiimide intermediates.

RX(9) OF 16 **A** ===> **AB**

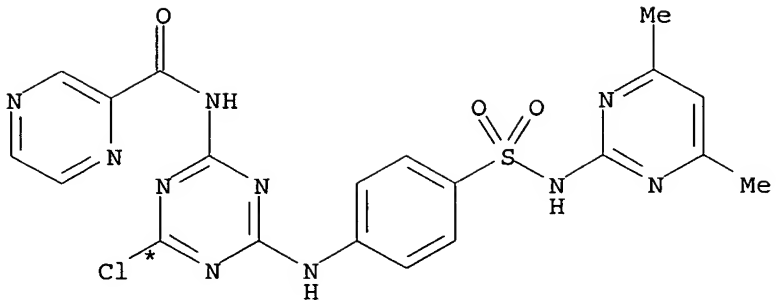


A AB

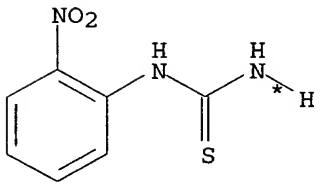
RX(9) RCT A **102-12-5**
RGT AC **98-59-9** TsCl, AD 1310-73-2 NaOH
PRO AB **27151-01-5**
SOL 109-99-9 THF
NTE regioselective
REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 28 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 141:140400 CASREACT
TITLE: Antibacterial study of 2-(pyrazine-2'-carboxamido)-4-(2'-p-aminobenzene-sulfonamido-4', 6'-dimethyl pyrimidine)-6-(arylthioureido)-s-triazine derivatives
AUTHOR(S): Patel, N. B.; Gorgamwala, Y. S.
CORPORATE SOURCE: Department of Chemistry, South Gujarat University, Surat, 395007, India
SOURCE: Journal of Indian Council of Chemists (2002), 19(2), 17-20
CODEN: JICCE7; ISSN: 0971-5037
PUBLISHER: Indian Council of Chemists
DOCUMENT TYPE: Journal
LANGUAGE: English
AB 2-(Pyrazine-2'-carboxamido)-4-(2'-p-aminobenzene sulfonamido-4', 6'-dimethylpyrimidine)-6-(arylthioureido)-s-triazine derivs., e.g., I, have been synthesized from 2-(pyrazine-2'-carboxamido)-4-(2'-p-aminobenzene sulfonamido-4', 6'-dimethyl pyrimidine)-6-chloro-s-triazine via 2-(pyrazine-2'-carboxamido)-4, 6-dichloro-triazine and have been screened for antibacterial strain against S. aureus & E. coli. Among them, I, II, and III show significant antibacterial activity.

RX(5) OF 33 ..**A** + **K** ===> **L**



A



K

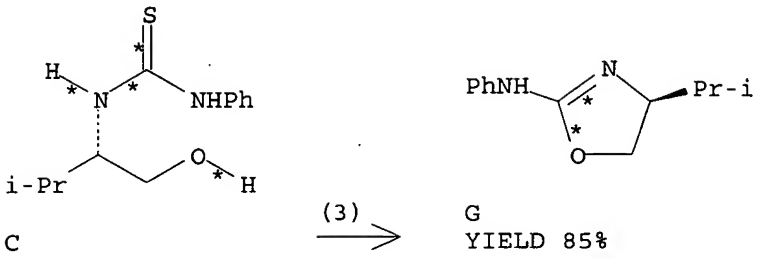
(5) →

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

RX(5) RCT A 726172-39-0, K 51039-84-0
PRO L 726172-33-4
SOL 67-64-1 Me2CO
CON 3 hours, reflux
REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 29 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 137:169447 CASREACT
TITLE: L-Valinol and L-phenylalaninol-derived 2-phenylamino-2-oxazolines as chiral auxiliaries in asymmetric alkylations
AUTHOR(S): Lee, Gue-Jae; Kim, Taek Hyeon; Kim, Jae Nyoung; Lee, Uk
CORPORATE SOURCE: Faculty of Applied Chemistry, Chonnam National University, Kwangju, 500-757, S. Korea
SOURCE: Tetrahedron: Asymmetry (2002), 13(1), 9-12
CODEN: TASYE3; ISSN: 0957-4166
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Lithium enolates of N-acyl-2-phenyliminooxazolidine auxiliaries reacted with alkyl halides to produce the α-alkylated products with very high diastereofacial selectivity (up to >99% d.e.). The products were readily cleaved by simple alkaline hydrolysis to give homochiral carboxylic acids and could also be directly converted to aldehydes and other acid derivs. such as esters and amides.

RX(3) OF 56 ...C ===> G...

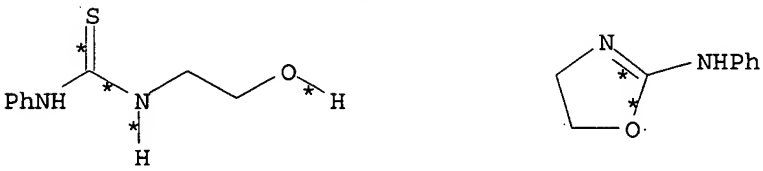


C → G
YIELD 85%

RX(3) RCT C 254900-23-7
RGT H 98-59-9 TsCl, I 1310-73-2 NaOH
PRO G 236386-37-1
SOL 109-99-9 THF
NTE stereoselective
REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 30 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 135:331378 CASREACT
TITLE: A mild cyclodesulfurization of N-(2-hydroxyethyl)-N'-phenylthioureas to 2-phenylamino-2-oxazolines using TsCl/NaOH
AUTHOR(S): Kim, T. H.; Lee, N.; Lee, G.-J.; Kim, J. N.
CORPORATE SOURCE: College of Engineering, Faculty of Applied Chemistry, Chonnam National University, Kwangju, 500-757, S. Korea
SOURCE: Tetrahedron (2001), 57(33), 7137-7141
CODEN: TETRAB; ISSN: 0040-4020
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB An efficient synthesis of 2-phenylamino-2-oxazolines via cyclodesulfurization of N-(2-hydroxyethyl)-N'-phenylthioureas by a one-pot reaction using p-toluenesulfonyl chloride (TsCl) and NaOH in very good yields is described.

RX(1) OF 12 A ===> B



A → B
YIELD 64%

RX(1) RCT A 102-12-5

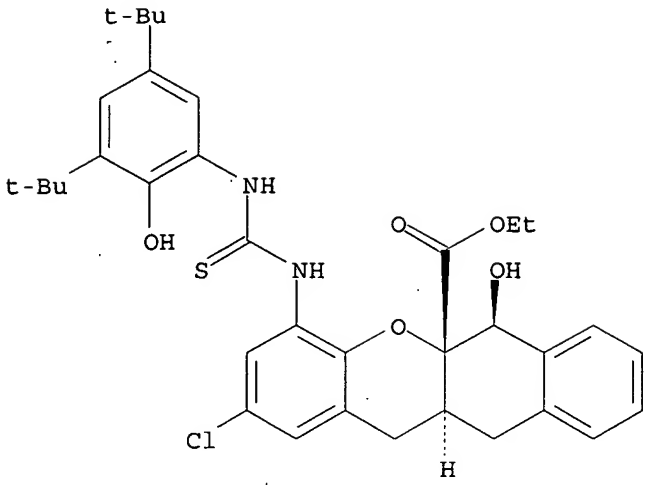
STAGE(1)
RGT C 1310-73-2 NaOH, D 98-59-9 TsCl
SOL 109-99-9 THF, 7732-18-5 Water

STAGE(2)
RGT E 7732-18-5 Water

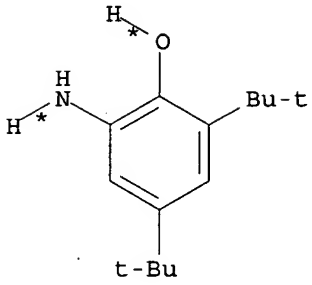
PRO B 27151-01-5
NTE regioselective, alternative reaction conditions shown
REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 31 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 135:344680 CASREACT
TITLE: trans-Benzoxanthene receptors for enantioselective recognition of amino acid derivatives
AUTHOR(S): Perez, Emilio M.; Oliva, Ana I.; Hernandez, Jose V.; Simon, Luis; Moran, Joaquin R.; Sanz, Francisca
CORPORATE SOURCE: Departamento de Quimica Organica, Universidad de Salamanca, Salamanca, E-37008, Spain
SOURCE: Tetrahedron Letters (2001), 42(34), 5853-5856
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Neutral cleft-type hydrogen-bonding receptors (I) based on a trans-benzoxanthene skeleton have shown good stereoselective association towards carbamate derivs. of amino acids. Among these, the best results corresponded to the com. available benzyloxycarbamate (Cbz) while the t-butyloxycarbamate (Boc) protecting group afforded disappointing results. Preparative TLC impregnated in ethoxycarbonyl proline provided a rapid way to resolve the receptor racemic mixture X-Ray anal. and Overhauser effects allow us to suggest a structure for these complexes and the reasons for the observed chiral discrimination.

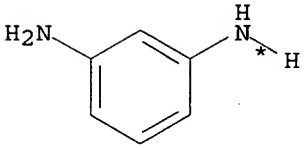
RX(29) OF 45 COMPOSED OF RX(7), RX(8), RX(9)
RX(29) T + S + AA + AD ===> AE



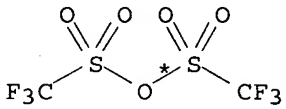
T



S

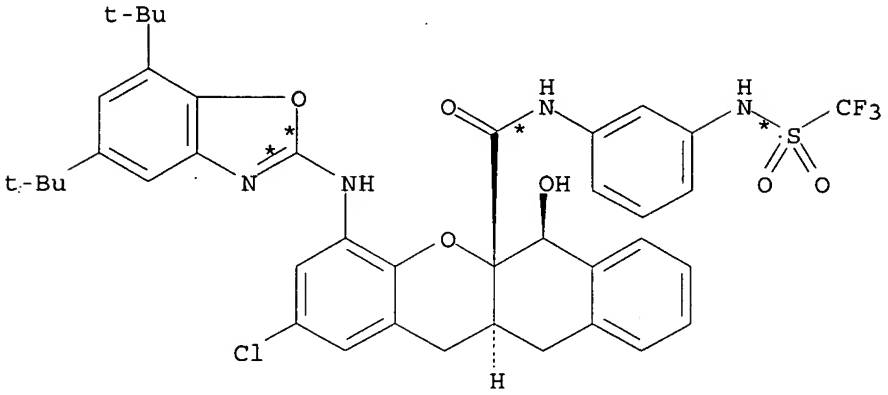


AA



AD

3 STEPS



AE
YIELD 63%

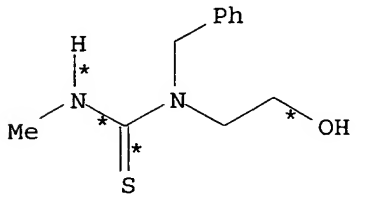
RX(7) RCT T 370862-26-3, S 1643-39-6
RGT W 74-88-4 MeI, X 108-75-8 s-Collidine
PRO V 370862-18-3
SOL 64-17-5 EtOH, 109-99-9 THF

RX(8) RCT V 370862-18-3, AA 108-45-2
RGT AC 109-72-8 BuLi
PRO AB 370862-27-4
SOL 109-99-9 THF

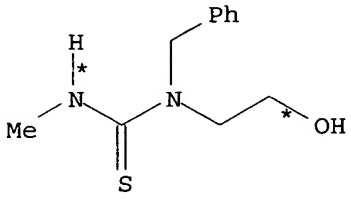
RX(9) RCT AB 370862-27-4, AD **358-23-6**
PRO AE **370862-28-5**
SOL 108-88-3 PhMe
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 32 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 135:344423 CASREACT
TITLE: Cyclization of N-(2-hydroxyethyl)-N-phenylmethyl-N'-substituted ureas and thioureas: prelude to the synthesis of 1-aryl-substituted 2-imidazolidinones on solid support
AUTHOR(S): Kim, Taek Hyeon; Lee, Namgun; Kim, Jae Nyoung
CORPORATE SOURCE: Faculty of Applied Chemistry, Chonnam National University, Kwangju, 500-757, S. Korea
SOURCE: Bulletin of the Korean Chemical Society (2001), 22(7), 761-764
CODEN: BKCSDE; ISSN: 0253-2964
PUBLISHER: Korean Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Ureas prepared in this study included: N'-ethyl-N-(2-hydroxyethyl)-N-(phenylmethyl)urea, N-(2-hydroxyethyl)-N'-phenyl-N-(phenylmethyl)urea, N-(2-Hydroxyethyl)-N'-(4-nitrophenyl)-N-(phenylmethyl)urea, N'-benzoyl-N-(2-hydroxyethyl)-N-(phenylmethyl)urea, etc. Thioureas prepared included N'-benzoyl-N-(2-hydroxyethyl)-N-(phenylmethyl)thiourea, N-(2-hydroxyethyl)-N'-phenyl-N-(phenylmethyl)thiourea and N-(2-hydroxyethyl)-N'-methyl-N-(phenylmethyl)thiourea. Cyclization of these urea and thiourea intermediates gave imidazolidinones and imidazolidinethiones.

RX(13) OF 24 ...2 **N** ===> AA + **AB**

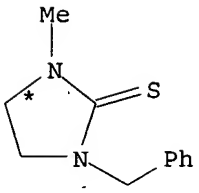


N

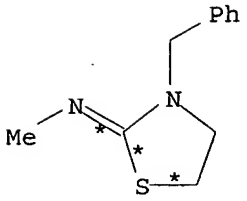


N

(13) →



AA
YIELD 18%

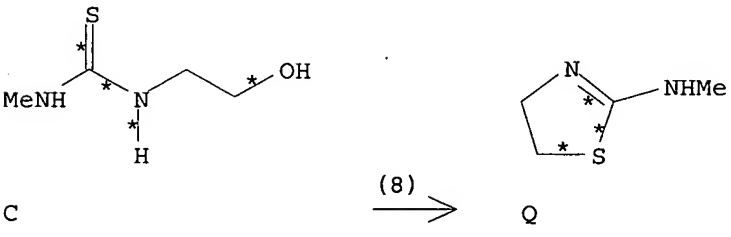


AB
YIELD 35%

RX(13) RCT N **370553-03-0**
RGT T 1310-73-2 NaOH, U **98-59-9** TsCl
PRO AA 370553-05-2, AB **370553-04-1**
SOL 109-99-9 THF, 7732-18-5 Water
NTE alternative preparation shown
REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 33 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 135:5550 CASREACT
TITLE: Cyclization reaction of N-(2-hydroxyethyl)-N'-methylthioureas in the presence of TsCl and base
AUTHOR(S): Lee, Namgun; Cha, Mi-Hyun; Kim, Taek Hyeon
CORPORATE SOURCE: Faculty of Applied Chemistry, Chonnam National University, Kwangju, 500-757, S. Korea
SOURCE: Journal of the Korean Chemical Society (2001), 45(1), 96-99
CODEN: JKCSEZ; ISSN: 1017-2548
PUBLISHER: Korean Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Thioureas I (R1 = H, Me, Et, PhCH2; R2 = H, Me; R3 = H, Et), prepared by condensation of aminoalcs. with MeNCS, were conveniently converted under one-pot reaction conditions using t-BuOK and TsCl into iminothiazolidines II (R3 = H, Me, Et) and imidazolethiones III (R3 = Me, Et).

RX(8) OF 25 ...**C** ===> **Q**



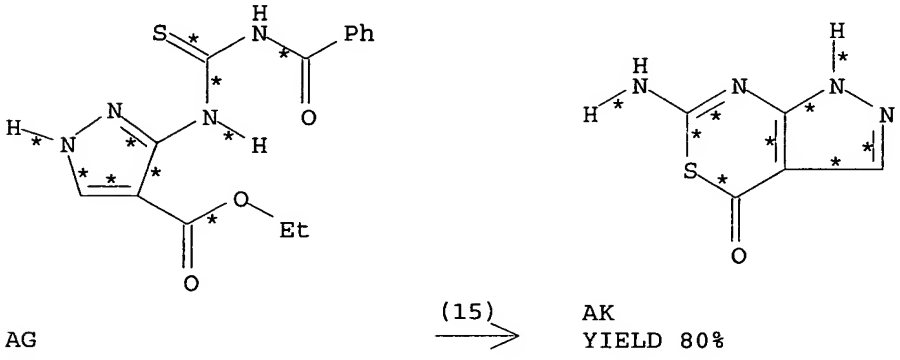
C (8) Q

RX(8) RCT C **3120-26-1**

RGT R 98-59-9 TsCl, S 121-44-8 Et3N, T 1122-58-3 4-DMAP
PRO Q 10416-51-0
SOL 109-99-9 THF
NTE regioselective, alternative prepn. shown
REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 34 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 135:57786 CASREACT
TITLE: Potential of pyrazolooxadiazinone derivatives as serine protease inhibitors
AUTHOR(S): Vicentini, C. B.; Guarneri, M.; Andrisano, V.; Guccione, S.; Langer, T.; Marschhofer, R.; Chabin, R.; Edison, A. M.; Huang, X.; Knight, W. B.; Giori, P.
CORPORATE SOURCE: Dipartimento di Scienze Farmaceutiche, Universita di Ferrara, Italy
SOURCE: Journal of Enzyme Inhibition (2001), 16(1), 15-34
CODEN: ENINEG; ISSN: 8755-5093
PUBLISHER: Harwood Academic Publishers
DOCUMENT TYPE: Journal
LANGUAGE: English
AB As a part of an investigation on mol. hybrids as new serine protease inhibitors, the pyrazolo [4,3-c][1,2,5]oxadiazin-3(5H)-one ring system was selected as a model of potential mechanism-based inhibitors. Due to the inherent reactivity of this system an optimal balance between susceptibility to nucleophilic attack and stability in solvents was sought prior to development as therapeutic agents. Substitutions on N5 and C7 of the supporting pyrazole ring with either aliphatic or aromatic groups and the replacement of the carbonyl oxygen on the reactive oxadiazinone ring with sulfur were explored. Two members of this class of inhibitors displayed time-dependent inhibition of human leukocyte elastase (HLE) suggesting mechanism-based inhibition. The observation that HLE generated a product(s) which displayed an identical UV-Visible spectrum to that observed during non-enzymic hydrolysis further supports this proposal. FlexX-based docking of these compds. into a model of HLE active site produced a mol. model of the inhibitor-enzyme interaction.

RX(15) OF 32 ...AG ===> AK



RX(15) RCT AG 138480-76-9

STAGE(1)
RGT AL 7664-93-9 H2SO4

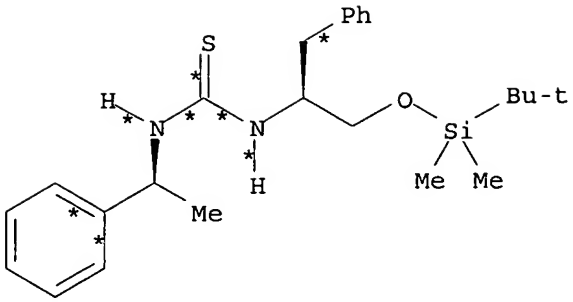
STAGE(2)
SOL 7732-18-5 Water

PRO AK 345633-64-9
REFERENCE COUNT: 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

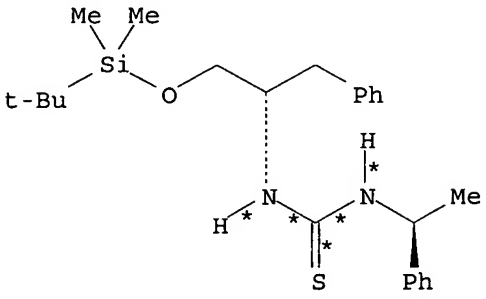
PRINT

L47 ANSWER 35 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 134:56618 CASREACT
TITLE: Modified Guanidines as Potential Chiral Superbases. 3. Preparation of 1,4,6-Triazabicyclooctene Systems and 1,4-Disubstituted 2-Iminoimidazolidines by the 2-Chloro-1,3-dimethylimidazolinium Chloride-Induced Cyclization of Guanidines with a Hydroxyethyl Substituent
AUTHOR(S): Isobe, Toshio; Fukuda, Keiko; Yamaguchi, Kentaro; Seki, Hiroko; Tokunaga, Tatsuhiro; Ishikawa, Tsutomu
CORPORATE SOURCE: Faculty of Pharmaceutical Sciences and Chemical Analysis Center, Chiba University, Inage Chiba, 263-8522, Japan
SOURCE: Journal of Organic Chemistry (2000), 65(23), 7779-7785 CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Simple preparation methods of modified guanidines have been explored as potential chiral superbases. Thus, 3,7,8-trisubstituted and 3,6,7,8-tetrasubstituted 1,4,6-triazabicyclooctene systems were prepared from (1S,2S)-1,2-diphenylethylenediamine through stepwise 2-chloro-1,3-dimethylimidazolinium chloride (DMC)-induced cyclizations of protected thioureas to the corresponding 2-iminoimidazolidines and then of 2-(2-hydroxyethylimino)imidazolidines to the bicyclic systems.. Linear guanidines with a 2-hydroxyethyl functional group were prepared by the reaction of carbodiimides with 2-amino alcs. Reaction of linear-type guanidines with DMC followed by base treatment afforded 1,4-disubstituted 2-iminoimidazolidines. Furthermore, another type of 1,4,6-triazabicyclooctene was also prepared through double DMC-induced cyclization of guanidines with two 2-hydroxyethyl substituents.

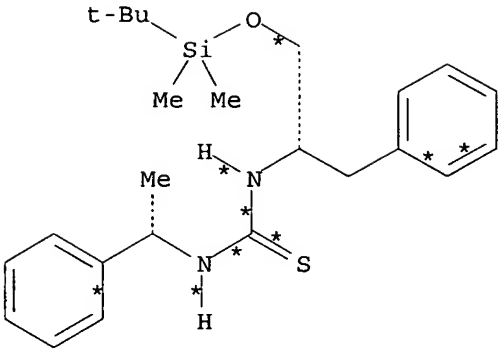
RX(126) OF 186 COMPOSED OF RX(40), RX(33), RX(34)
RX(126) 3 BV + 3 A ===> BL + BM + BN



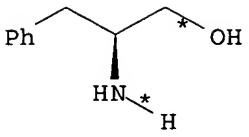
BV



BV

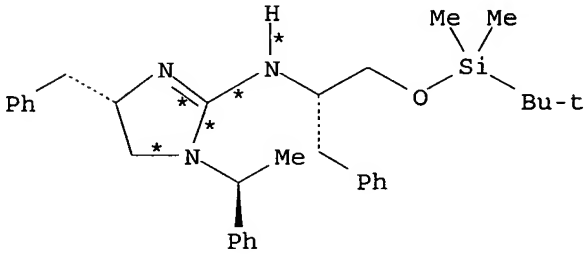


BV

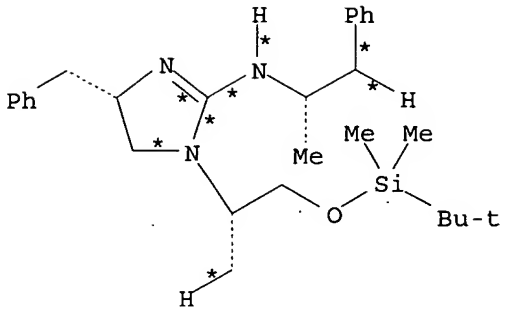


3 A

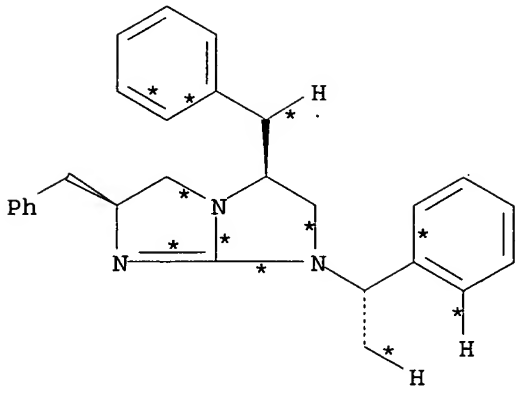
3 STEPS



BL



BM



BN
YIELD 15%

RX(40) RCT BV **314050-81-2**
RGT D 121-44-8 Et3N, K 37091-73-9 1H-Imidazolium, 2-chloro-4,5-dihydro-1,3-dimethyl-, chloride
PRO BJ 314050-82-3
SOL 75-09-2 CH2Cl2

RX(33) RCT BJ 314050-82-3, A 3182-95-4
PRO BK 314050-73-2
SOL 108-88-3 PhMe

RX(34) RCT BK 314050-73-2

STAGE(1)
RGT BO **75-75-2** MeSO3H

STAGE(2)
RGT K 37091-73-9 1H-Imidazolium, 2-chloro-4,5-dihydro-1,3-dimethyl-, chloride, D 121-44-8 Et3N
SOL 75-09-2 CH2Cl2

STAGE(3)
RGT AS 1310-58-3 KOH
SOL 67-56-1 MeOH

PRO BL **314050-74-3**, BM 314050-79-8, BN 314050-75-4
NTE 94% overall yield

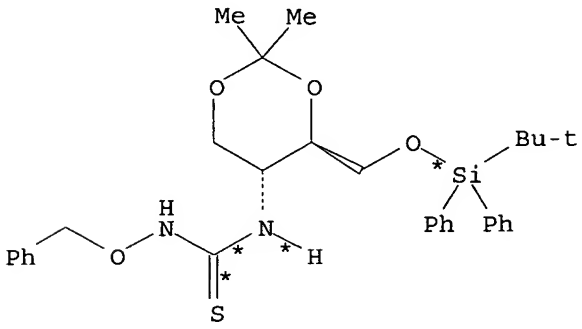
REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 36 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 133:17720 CASREACT
TITLE: Synthesis of 2-Substituted Polyhydroxytetrahydropyrimidines (N-Hydroxy Cyclic Guanidino-Sugars): Transition-State Mimics of Enzymatic Glycosidic Cleavage
AUTHOR(S): Le, Van-Duc; Wong, Chi-Huey

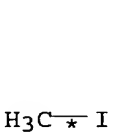
CORPORATE SOURCE: Department of Chemistry and the Skaggs Institute for Chemical Biology, The Scripps Research Institute, La Jolla, CA, 92037, USA
SOURCE: Journal of Organic Chemistry (2000), 65(8), 2399-2409
CODEN: JOCBAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The synthesis of 2-substituted polyhydroxytetrahydropyrimidines as transition-state mimics of enzymic glycosidic cleavage has been achieved by using guanylation and cyclization methodologies. The D-galacto type N-hydroxy cyclic guanidino-sugar was synthesized in six steps from an amine and thiourea in an overall yield of 59%. To further derivatize this compound to incorporate the leaving group moiety, we have synthesized 2-methylsulfanyl compds. as key intermediates. The 2-methylsulfanyl group was displaced with amines, assisted by silver tetrafluoroborate as Lewis acid, to give protected cyclic guanidines in moderate yields (60-67%). Removal of the protecting groups gave the D-galacto-type N-hydroxy cyclic guanidino-sugar. The key steps in the synthesis of the 6-deoxy-DL-galacto type N-hydroxy cyclic guanidino-sugars involve cyclization of the appropriate acetal intermediates followed by removal of the protecting groups. A preliminary biol. evaluation on some of the final products showed no inhibitory activity against α- or β-galactosidase but some moderate activity against α-fucosidase.

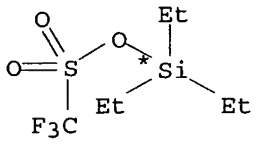
RX(159) OF 183 COMPOSED OF RX(14), RX(15), RX(16), RX(20), RX(21)
RX(159) **I** + AP + **AF** + E ===> **BB**



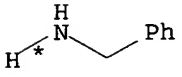
I



AP

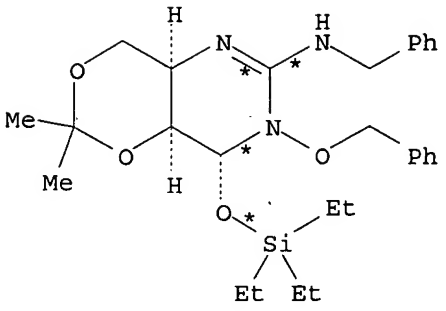


AF



E

5 STEPS →



BB
YIELD 67%

RX(14) RCT I **272106-63-5**

STAGE(1)
RGT AR 7646-69-7 NaH
SOL 64-17-5 EtOH

STAGE(2)
RCT AP 74-88-4

STAGE(3)
SOL 7732-18-5 Water

STAGE(4)
SOL 141-78-6 AcOEt

PRO AQ 272106-64-6
NTE STEREOSELECTIVE

RX(15) RCT AQ 272106-64-6

STAGE(1)
RGT R 429-41-4 Bu4N.F
SOL 109-99-9 THF

STAGE(2)
SOL 141-78-6 AcOEt

PRO AT 272106-65-7
NTE STEREOSELECTIVE

RX(16) RCT AT 272106-65-7

STAGE(1)
RGT AB 87413-09-0 Martin's reagent
SOL 75-09-2 CH2Cl2

STAGE(2)
SOL 141-78-6 AcOEt

STAGE(3)

SOL 7732-18-5 Water

PRO AU 272106-66-8
NTE STEREOSELECTIVE

RX(20) RCT AU 272106-66-8, AF **79271-56-0**

STAGE(1)
RGT AH 108-48-5 2,6-Lutidine
SOL 75-09-2 CH2Cl2

STAGE(2)
SOL 141-78-6 AcOEt

PRO BA 272106-70-4
NTE STEREOSELECTIVE

RX(21) RCT BA 272106-70-4, E 100-46-9

STAGE(1)
RGT BC 14104-20-2 AgBF4, M 121-44-8 Et3N
SOL 75-05-8 MeCN

STAGE(2)
SOL 141-78-6 AcOEt

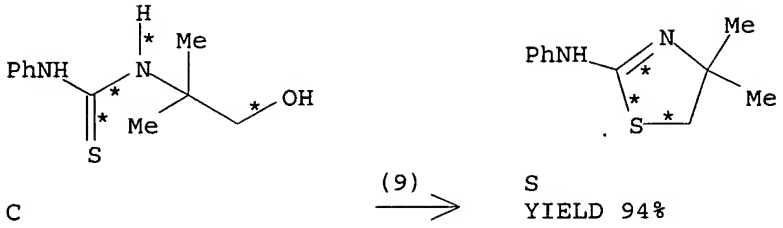
PRO BB **272106-71-5**
NTE STEREOSELECTIVE

REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 37 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 134:29346 CASREACT
TITLE: Ring closure of N-(2-hydroxyethyl)-N'-phenylthioureas: one-pot synthesis of 2-(phenylamino)thiazolines
AUTHOR(S): Kim, Taek Hyeon; Min, Jung Ki; Lee, Gue-Jae
CORPORATE SOURCE: Faculty of Applied Chemistry, Chonnam National University, Kwangju, 500-757, S. Korea
SOURCE: Bulletin of the Korean Chemical Society (2000), 21(9), 919-922
CODEN: BKCSDE; ISSN: 0253-2964
PUBLISHER: Korean Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The cyclization reaction of N-(2-hydroxyethyl)-N'-phenylthioureas containing an ambident nucleophile was examined with a variety of bases plus p-toluenesulfonyl chloride (TsCl). N-(2-Hydroxyethyl)thioureas were readily obtained in high yields from the reaction of the corresponding 2-aminoalkanols with Ph isothiocyanate, avoiding the need for O-protection. The use of a one-pot reaction (NaOH/TsCl) was found to be most effective in producing the requisite 2-(phenylamino)thiazolines (S-cyclization) in the case of thioureas derived from N-unsubstituted amino alcs., while for thioureas prepared from N-substituted amino alcs. the combination of Et3N and TsCl led to the S-cyclization products.

RX(9) OF 22 ..C ===> S

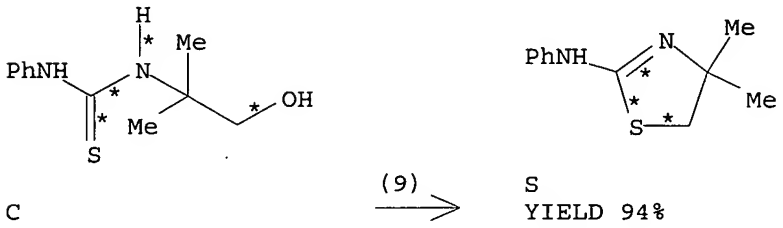


C (9) S YIELD 94%

RX(9) RCT C 2654-06-0
RGT T 98-59-9 TsCl, U 1310-73-2 NaOH
PRO S 5744-31-0
SOL 7732-18-5 Water, 109-99-9 THF
REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 38 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 132:93244 CASREACT
TITLE: One-pot synthesis of 2-(phenylamino)thiazolines from N-(2-hydroxyethyl)-N'-phenylthioureas
AUTHOR(S): Kim, Taek Hyeon; Min, Jung Ki; Lee, Gue-Jae
CORPORATE SOURCE: Faculty of Applied Chemistry, Chonnam National University, Kwangju, 500-757, S. Korea
SOURCE: Tetrahedron Letters (1999), 40(47), 8201-8204
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB 2-(Phenylamino)thiazolines were synthesized from N-(2-hydroxyethyl)-N'-phenylthioureas and PhNCS by a 1-pot reaction using 4-tosyl chloride and NaOH or Et3N.

RX(9) OF 22 ..C ===> S



C (9) S YIELD 94%

RX(9) RCT C 2654-06-0

STAGE(1)
RGT T 98-59-9 TsCl, U 1310-73-2 NaOH
SOL 109-99-9 THF

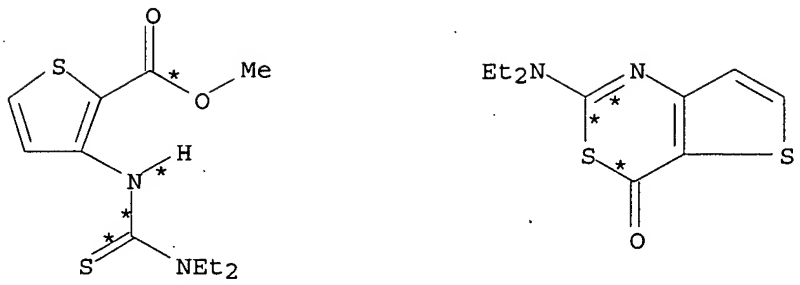
STAGE(2)
SOL 7732-18-5 Water

STAGE(3)
SOL 60-29-7 Et2O

PRO S 5744-31-0
REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 39 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 132:151751 CASREACT
TITLE: 2-(Diethylamino)thieno[1,3]oxazin-4-ones as Stable Inhibitors of Human Leukocyte Elastase
AUTHOR(S): Guetschow, Michael; Kuerschner, Lars; Neumann, Ulf; Pietsch, Markus; Loeser, Reik; Koglin, Norman; Eger, Kurt
CORPORATE SOURCE: Institute of Pharmacy, University of Leipzig, Leipzig, D-04103, Germany
SOURCE: Journal of Medicinal Chemistry (1999), 42(26), 5437-5447
CODEN: JMCMAR; ISSN: 0022-2623
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A series of 2-(diethylamino)thieno[1,3]oxazin-4-ones was synthesized and evaluated in vitro for inhibitory activity toward human leukocyte elastase (HLE). The Gewald thiophene synthesis was utilized to obtain several 2-aminothiophene-3-carboxylates. These precursors were subjected to a 5-step route to obtain thieno[2,3-d][1,3]oxazin-4-ones bearing various substituents at positions 5 and 6. Both thieno[2,3-d]- and thieno[3,2-d]-fused oxazin-4-ones possess extraordinary chemical stability, which was expressed as rate consts. of the alkaline hydrolysis. The kinetic parameters of the HLE inhibition were determined The most potent compound, 2-(diethylamino)-4H-[1]benzothieno[2,3-d][1,3]oxazin-4-one, exhibited a Ki value of 5.8 nM. 2-(Diethylamino)thieno[1,3]oxazin-4-ones act as acyl-enzyme inhibitors of HLE, similar to the inhibition of serine proteases by 4H-3,1-benzoxazin-4-ones. The isosteric benzene-thiophene replacement accounts for an enhanced stability of the acyl-enzyme intermediates.

RX(2) OF 35 ..C ===> G..



C (2) G
YIELD 89%

RX(2) RCT C **257610-82-5**

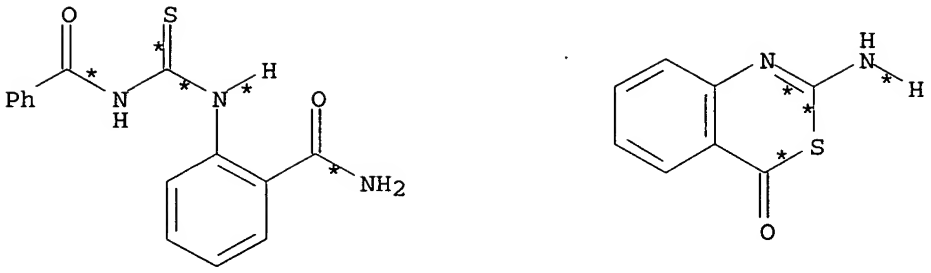
STAGE(1)
RGT H **7664-93-9** H2SO4

STAGE(2)
SOL 7732-18-5 Water

PRO G **257610-83-6**
REFERENCE COUNT: 75 THERE ARE 75 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 40 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 132:151753 CASREACT
TITLE: Comment on cyclization of 2-(3-benzoylthioureido)benzonitrile in sulfuric acid
AUTHOR(S): Pazdera, Pavel; Sibor, Jiri
CORPORATE SOURCE: Department of Organic Chemistry, Faculty of Sciences, Masaryk University, Brno, CZ-611 37, Czech Rep.
SOURCE: Scripta--Chemistry (1998), Volume Date 1997-1998, 27-28, 27-32
CODEN: SCCHEB; ISSN: 1210-8456
PUBLISHER: Masarykova Universita v Brne, Prirodovedecka Fakulta
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Cyclization of 2-(3-benzoylthioureido)benzonitrile by action of sulfuric acid is reported. The main product, i.e. 2-benzoylamino-4-imino-4H-3,1-benzothiazine (I), is formed directly. 2-(3-Benzoylthioureido)benzamide, 2-benzoylamino-4H-3,1-benzothiazine-4-one, and 2-amino-4H-3,1-benzothiazine-4-one were obtained from I during consequent reactions.

RX(5) OF 6 ...**G** ===> **I**



G (5) ⟶ I
YIELD 96%

RX(5) RCT G **115934-14-0**
RGT C **7664-93-9** H2SO4
PRO I **131357-73-8**
SOL 7732-18-5 Water
REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

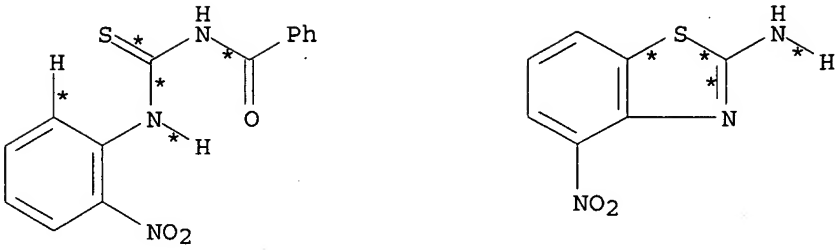
L47 ANSWER 41 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 125:275861 CASREACT
TITLE: Preparation of 2-aminobenzothiazoles
INVENTOR(S): Malinowski, Wlodzimierz; Szadowski, Jerzy; Kraska, Jan
PATENT ASSIGNEE(S): Politechnika Lodzka, Pol.
SOURCE: Pol., 3 pp.
CODEN: POXXA7
DOCUMENT TYPE: Patent
LANGUAGE: Polish
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PL 165691	B1	19950131	PL 1991-292770	19911212

PRIORITY APPLN. INFO.: PL 1991-292770 19911212

AB The title mono-, di- and trisubstituted 2-aminobenzothiazoles, useful as starting material in manufacturing dyes, herbicides, fungicides, etc., were prepared by cyclization of the corresponding 1-benzoyl-3-phenylthioureas with NaNO2 at 90° followed by hydrolysis at 110-150°. Thus, cyclization of 1-benzoyl-3(2-nitrophenyl)thiourea with NaNO2 in 96% H2SO4 at 50° followed by treatment of the reaction mixture with 20% H2SO4 containing H2NSO3H and (H2N)2CO at 145° afforded 89% 2-amino-4-nitrobenzothiazole.

RX(1) OF 1 **A** ===> **B**



A (1) B YIELD 89%

RX(1) RCT A **66934-10-9**

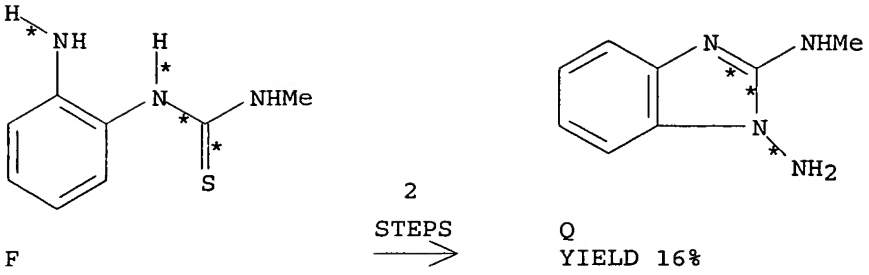
STAGE(1)
RGT C 7632-00-0 NaNO2, D **7664-93-9** H2SO4

STAGE(2)
RGT D **7664-93-9** H2SO4, E 5329-14-6 Sulfamic acid, F 57-13-6 Urea
SOL 7732-18-5 Water

PRO B **6973-51-9**

L47 ANSWER 42 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 124:8691 CASREACT
TITLE: 1,2-Diaminobenzimidazoles: selective inhibitors of nitric oxide synthase derived from aminoguanidine
AUTHOR(S): Hamley, Peter; Tinker, Alan C.
CORPORATE SOURCE: Med. Chem. Dept., R & D Labs., Leicestershire, LE11 ORH, UK
SOURCE: Bioorganic & Medicinal Chemistry Letters (1995), 5(15), 1573-6
CODEN: BMCLE8; ISSN: 0960-894X
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The synthesis of a series of novel 1,2-diaminobenzimidazoles is described. While the parent compound I is a weak, modestly selective inhibitor of the induced isoform of nitric oxide synthase (both mouse and human), a small structural change led to compound II, a highly selective inhibitor of neuronal enzyme.

RX(10) OF 11 COMPOSED OF RX(5), RX(6)
RX(10) **F** ===> **Q**



F Q
YIELD 16%

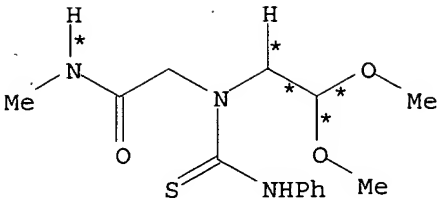
RX(5) RCT F **20367-31-1**
RGT O 74-88-4 MeI
PRO N 17228-38-5
SOL 64-17-5 EtOH

RX(6) RCT N 17228-38-5
RGT I **2950-43-8** HOSO2ONH2, J 1310-58-3 KOH
PRO Q **107879-46-9**
SOL 7732-18-5 Water

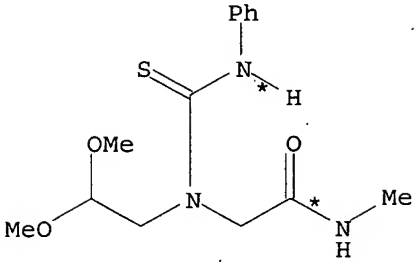
L47 ANSWER 43 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 122:133069 CASREACT
TITLE: Intramolecular cyclization reaction of amido-ureido (or thioureido)-acetals
AUTHOR(S): Lee, Yong Sup; Kim, Choong Sup; Park, Hokoon
CORPORATE SOURCE: Organic Chem. Lab (I), Korea Inst. Sci. Technology, Seoul, 130-650, S. Korea
SOURCE: Heterocycles (1994), 38(12), 2605-14
CODEN: HTCYAM; ISSN: 0385-5414
PUBLISHER: Japan Institute of Heterocyclic Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Intramol. cyclization reaction of compds. having amide, urea and acetal functional groups was investigated under various conditions. In acidic conditions, the cyclization reaction of N-methyl-N'-2-(2,2-dimethoxyethyl)-N'-(alkyl- or phenylcarbamoyl)glycine amide proceeded only to afford imidazolinone derivative via an acyliminium ion intermediate formed by intramol. amidoalkylation reaction of amide and acetal functional groups. However, the corresponding compds. having thiourea functional group resulted in the formation of iminothiazolidine derivs. as major product and pyrazinone compds. as minor product. In nearly neutral or basic conditions, both of ureido- or thioureidoacetals afforded hydantoin or thiohydantoin derivs., resp., in excellent yield.

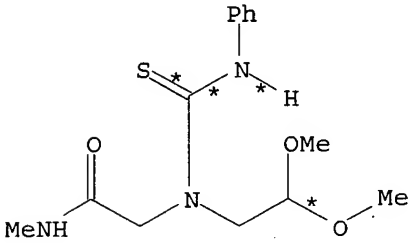
RX(3) OF 33 ...3 **F** ===> G + **H** + I



F

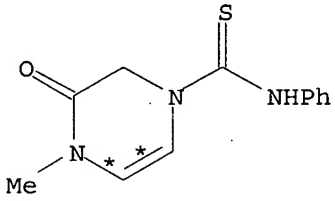


F

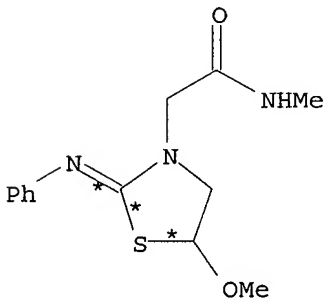


F

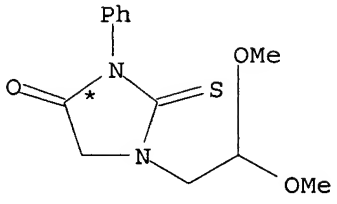
(3)



G
YIELD 7%



H
YIELD 58%



I

RX(3) . RCT F **160952-13-6**

STAGE(1)
RGT J **75-75-2** MeSO3H
SOL 75-09-2 CH2Cl2

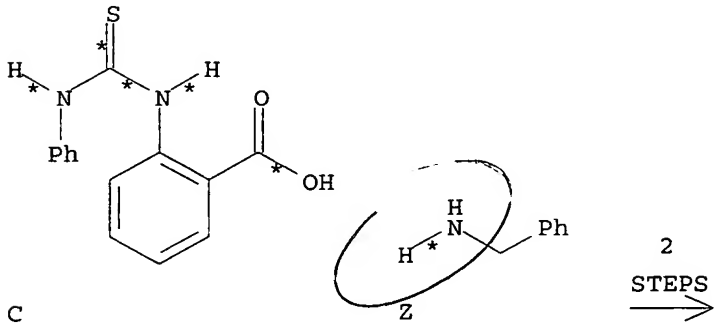
STAGE(2)
RGT K 144-55-8 NaHCO3
SOL 7732-18-5 Water

PRO G 160952-17-0, H **160952-18-1**, I 160952-19-2

NTE REGIOSELECTIVE

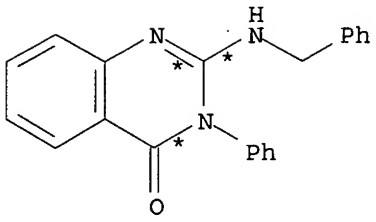
L47 ANSWER 44 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 118:254854 CASREACT
TITLE: Synthesis and some reactions of 3-phenyl-(1H,3H)-quinazoline-2-thione-4-one
AUTHOR(S): El-Deen, I. M.; El-Desuky, S.
CORPORATE SOURCE: Fac. Educ., Suez Canal Univ., Egypt
SOURCE: Journal of the Serbian Chemical Society (1992), 57(11), 719-23
CODEN: JSCSEN; ISSN: 0352-5139
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Room temperature treatment of 2-(3-Ph thioureido)-benzoic acid with concentrated sulfuric acid lead to the formation of 3-phenyl(1H,3H)-quinazoline-2-thione-4-one (I) in generally very good yield. Ammonolysis, hydrazinolysis and alkylation of I yielded 2-substituted-3-phenyl(1H,3H)-quinazoline-4-one II (R = NHPh, NHCH2Ph, NHNH2, NHNHPh), 3-phenyl-4(1H3H)-quinazolone-2-thioglycolic acid II; R = SCH2CO2H) and the ester II (R = SCH2CO2Et), resp. Compound II (R = SCH2CO2H) reacted with anisaldehyde to afford the β-[3-phenyl-4(1H,3H)-quinazolone-2-yl-thio]-4-methoxystyrene. Treatment of compound II (R = SCH2CO2Et) with anthranilic acid gave the corresponding 2-substituted-4H-3,1-benzoxazine-4-one III. Hydrazinolysis and arylation, under Friedel-Crafts conditions, of III affords N-substituted anthranilic acid hydrazide IV (R1 = NHNH2) and N-2-(substituted)-benzophenone IV (R1 = C6H3Me2-2,4), resp.

RX(14) OF 33 COMPOSED OF RX(2), RX(9)
RX(14) **C** + Z ===> **AA**



C

Alternate reaction yield ?



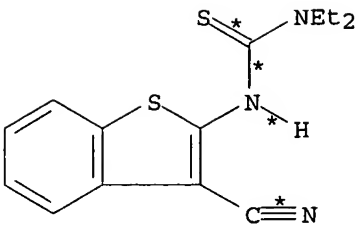
AA
YIELD 75%

RX(2) RCT C **1222-20-4**
RGT F **7664-93-9** H2SO4
PRO E 18741-24-7

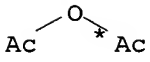
RX(9) RCT E 18741-24-7, Z 100-46-9
PRO AA **146849-70-9**
SOL 64-17-5 EtOH

L47 ANSWER 45 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 117:48453 CASREACT
TITLE: Polycyclic azines with heteroatoms in the 1- and 3-positions. Part 27. One-pot synthesis of 4-acylimino-2-aminothieno[2,3-d][1,3]thiazines from 2-thioureidothiophene-3-carbonitriles
AUTHOR(S): Guetschow, Michael; Leistner, Siegfried; Pink, Maren
CORPORATE SOURCE: Sekt. Biowissenschaft., Univ. Leipzig, Leipzig, D-0-7010, Germany
SOURCE: Journal of Heterocyclic Chemistry (1992), 29(2), 279-82
CODEN: JHTCAD; ISSN: 0022-152X
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A new one-pot synthesis of 4-acylimino-2-aminothieno[2,3-d][1,3]thiazines I [R1R2 = (CH2)4, R3R4 = (CH2)2O(CH2)2, R5 = Me, Et; R1R2 = (CH2)4, R3 = R4 = Et, R5 = Me, Et; R1 = R2 = Me, R3R4 = (CH2)2O(CH2)2, R5 = Me, Et] from 2-thioureidothiophene-3-carbonitriles II, acetic, propionic anhydride, resp., and concentrated sulfuric acid is reported. The structure of I [R1R2 = (CH2)4, R3R4 = (CH2)2O(CH2)2, R5 = Me] is confirmed by x-ray structure anal.

RX(2) OF 6 **E** + B ===> **F**

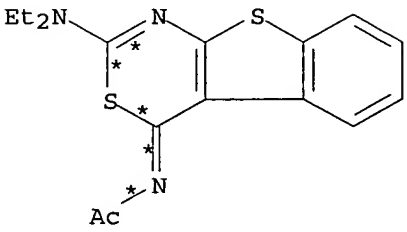


E



B

(2) →



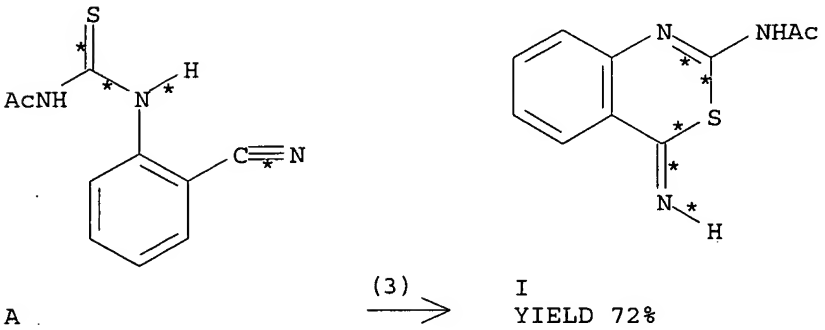
F
YIELD 89%

RX(2) RCT E **142310-48-3**, B 108-24-7
RGT D **7664-93-9** H2SO4
PRO F **142310-60-9**

L47 ANSWER 46 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 116:151693 CASREACT
TITLE: 2-(3-Acylthioureido)benzonitriles. I. Synthesis and cyclization reactions of 2-(3-acylthioureido)benzonitriles
AUTHOR(S): Pazdera, P.; Potucek, V.; Novacek, E.; Kalvins, I.; Trapencieris, P.; Pugovics, O.
CORPORATE SOURCE: Fac. Nat. Sci., Masaryk Univ., Brno, CS-611 37, Czech.
SOURCE: Chemical Papers (1991), 45(4), 527-40
CODEN: CHPAEG; ISSN: 0366-6352
DOCUMENT TYPE: Journal
LANGUAGE: English
AB PhCONHCSNHC6H4COR-o (I; R = OH, NH2) prepared by the addition of 2-aminobenzonitrile to acylisothiocyanates in acetone solution underwent a cyclization reaction either in concentrated sulfuric acid at room temperature forming acylaminoiminobenzothiazines, e.g., II (R1 = COPh), or under base catalysis with aqueous solution of sodium hydroxide, ammonia or sodium carbonate at room temperature for II (R1 = H). This was also prepared by the rearrangement of benzothiazines III (R2 = Me, OMe, OEt, Ph; X = NH) in aqueous solution of sodium hydroxide. Under the same conditions I (R = OMe) reacted to III (X = O, R2 = R) and to known 2-thioxo-1,2,3,4-tetrahydroquinazolin-4-one.

This compound is also a product of acid-catalyzed rearrangement of III (X = NH) and III (X = O) rearrangement under acid or base catalysis, resp.

RX(3) OF 8 ..**A** ===> **I**..

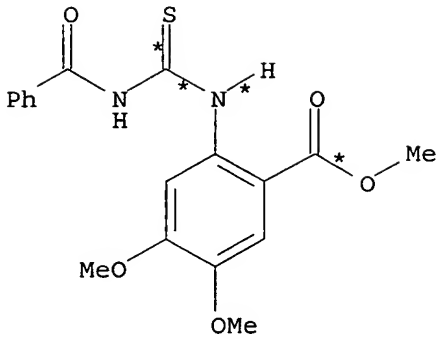


A → I
YIELD 72%

RX(3) RCT A **119118-96-6**
RGT J **7664-93-9** H2SO4
PRO I **138468-37-8**

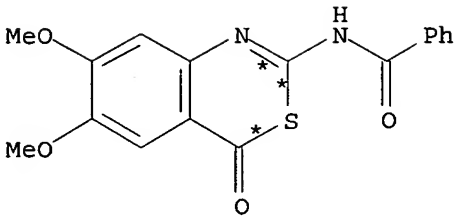
L47 ANSWER 47 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 115:159072 CASREACT
TITLE: Polycyclic azines with heteroatoms in 1- and 3-position. 30. Synthesis of 6,7-dimethoxy substituted 3,1-benzothiazin-4-ones
AUTHOR(S): Guetschow, Michael; Heinecke, Kristina; Thiel, Wilfried; Leistner, Siegfried
CORPORATE SOURCE: Sekt. Biowiss., Univ. Leipzig, Leipzig, O-7010, Germany
SOURCE: Archiv der Pharmazie (Weinheim, Germany) (1991), 324(7), 465-6
CODEN: ARPMAS; ISSN: 0365-6233
DOCUMENT TYPE: Journal
LANGUAGE: German
AB Cyclization of the acylthioureas I (R = Me, Ph) gave benzothiazinones II (R = R1 = H; R = Me, R1 = H, Ac, Bz) depending on reaction conditions.

RX(3) OF 10 ..**C** ===> **G**



C

(3) →

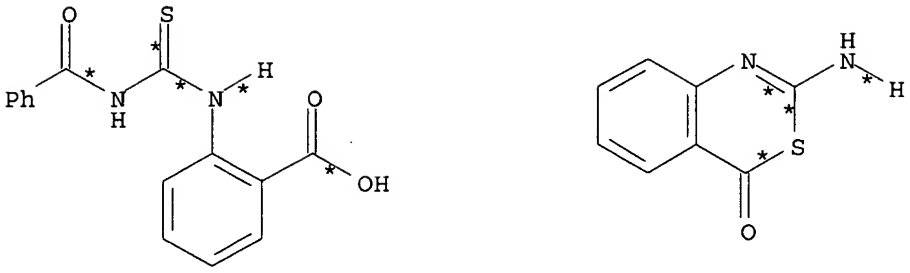


G
YIELD 75%

RX(3) RCT C 135509-75-0
RGT D 7664-93-9 H2SO4
PRO G 135509-76-1

L47 ANSWER 48 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 114:42728 CASREACT
TITLE: Polycyclic azines. XXV. 2-amino-3,1-benzothiazin-4-ones: synthesis, dimroth-rearrangement to quinazolin-4-(3H)-thiones, and MS/MS-fragmentation
AUTHOR(S): Leistner, Siegfried; Guetschow, Michael; Stach, Joachim
CORPORATE SOURCE: Sekt. Biowiss., Karl-Marx-Univ., Leipzig, DDR-7010, Ger. Dem. Rep.
SOURCE: Archiv der Pharmazie (Weinheim, Germany) (1990), 323(10), 857-61
CODEN: ARPMAS; ISSN: 0365-6233
DOCUMENT TYPE: Journal
LANGUAGE: German
AB The intramol. cyclocondensation reaction of benzoylthiourea derivs., e.g. 4,2-RR1C6H3NHC(:S)NHCOPh (R = H, Me, Cl; R1 = CO2Me, CO2H, cyano) gave 2-amino-1,3-benzothiazin-4-ones I (same R). Dimroth rearrangement of I gave quinazolin-2-thiones II (same R). The cyclocondensation of 4,2-RR1C6H3NHC(:S)NHCOPh (R = H, Me, Cl; R1 = CO2Me, CO2H) gave 2-(benzoylamino)-1,3-benzothiazin-4-ones. I (R = H) had antianaphylactic activity.

RX(1) OF 9 A ===> B...

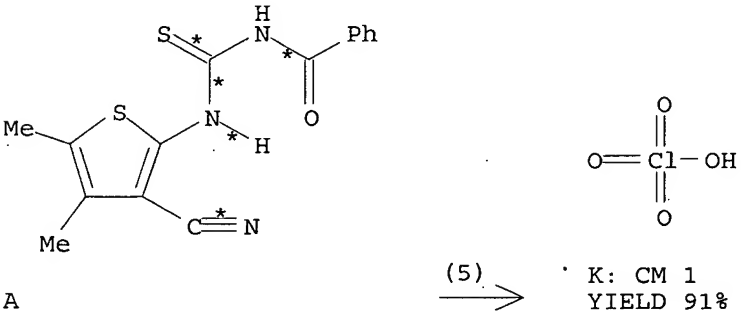


A (1) → B
YIELD 81%

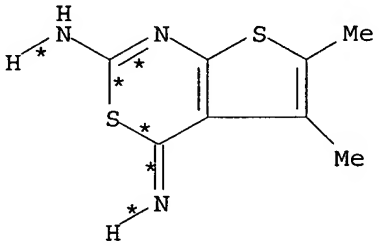
RX(1) RCT A **13277-24-2**
RGT C **7664-93-9** H2SO4, D 7732-18-5 Water
PRO B **131357-73-8**

L47 ANSWER 49 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 113:6259 CASREACT
TITLE: Multicyclic azines with heteroatoms in the 1- and 3-positions. 24. Preparation of 2-amino-4-iminothieno[2,3-d][1,3]thiazinium salts and their retrocycloaddition reaction to 2-thioureidothiophene-3-carbonitriles
AUTHOR(S): Guetschow, Michael; Leistner, Siegfried
CORPORATE SOURCE: Sekt. Biowiss., Karl-Marx-Univ., Leipzig, DDR-7010, Ger. Dem. Rep.
SOURCE: Zeitschrift fuer Chemie (1990), 30(1), 23-4
CODEN: ZECEAL; ISSN: 0044-2402
DOCUMENT TYPE: Journal
LANGUAGE: German
AB Treating thiophenecarbonitriles I [R = Me; RR = (CH2)4] with H2SO4 gave thioureidothiophene-3-carbonitriles, which cyclized to give aminoiminothienothiazinium salts II (X = Cl, ClO4, HSO4).

RX(5) OF 11 **A** ===> **K.**..



A (5) → K: CM 1
YIELD 91%

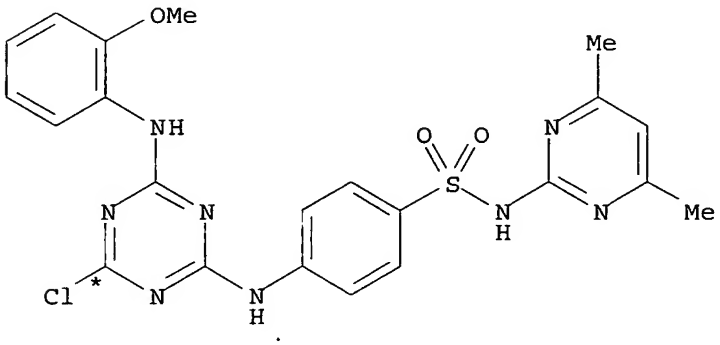


K: CM 2
YIELD 91%

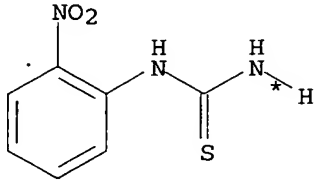
RX(5) RCT A **121746-07-4**
RGT C **7664-93-9** H2SO4, L 7601-90-3 HClO4
PRO K **127526-98-1**
SOL 7732-18-5 Water

L47 ANSWER 50 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 114:164164 CASREACT
TITLE: Synthesis of 2-(2'-methoxyanilino)-4-(2''-p-aminobenzenesulfonamido-4'', 6''-dimethylpyrimidine)-6-(arylthioureido)-s-triazine (thiourea derivatives)
AUTHOR(S): Patel, K. H.; Desai, K. R.
CORPORATE SOURCE: Dep. Chem., South Gujarat Univ., Surat, 395 007, India
SOURCE: Proceedings of the National Academy of Sciences, India, Section A: Physical Sciences (1990), 60(1), 7-9
CODEN: PAIAA3; ISSN: 0369-8203
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The title compds. I (R = H, o-, m-, p-Me, o-, m-, p-O2N, o-, m-, p-Cl) were prepared in 3 steps from cyanuric chloride by amination with o-anisidine, amination with sulfadimidine, and amidation with RC6H4NHCSNH2. Maximum inhibition of E. coli occurred with I (R = m-Cl) and for S. aureus with I (R = p-Me).

RX(7) OF 42 ..**F** + **O** ===> **P**

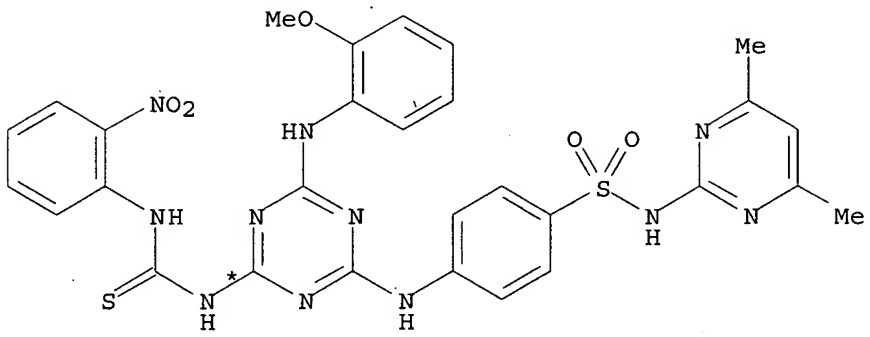


F



O

(7) →

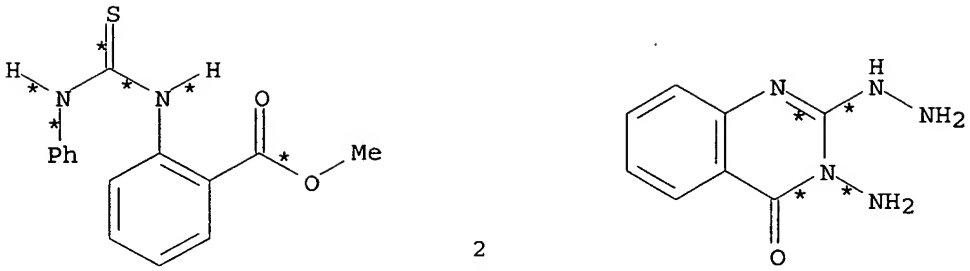


P

RX(7) RCT F **132744-97-9**, O **51039-84-0**
PRO P **132744-92-4**
SOL 67-64-1 Me2CO

L47 ANSWER 51 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 112:35587 CASREACT
TITLE: Modified procedure for the preparation of 5-nitro-2-furylmethylene diacetate and its use in the synthesis of some novel (5-nitro-2-furyl)azomethines via 5-nitro-2-furaldehyde
AUTHOR(S): Vlaovic, Djordje; Milic, Bozidar L.; Mackenzie, Kenneth
CORPORATE SOURCE: Fac. Technol., Univ. Novi Sad, Novi Sad, 21000, Yugoslavia
SOURCE: Journal of Chemical Research, Synopses (1989), (6), 156-7
CODEN: JRPSDC; ISSN: 0308-2342
DOCUMENT TYPE: Journal
LANGUAGE: English
AB 5-Nitro-2-furylmethylene diacetate (I) was prepared by treating 2-furaldehyde with Ac2O/fuming HNO3/H2SO4. Acid hydrolysis of I gave 5-nitro-2-furaldehyde (II). Condensation of II with hydrazines, N-amino-substituted N heterocycles, or N-aminoazonium mesitylenesulfonates gave the title azomethines. (The sulfonates were prepared by treating N heterocycles with 2,4,6-Me3C6H2SO2ONH2). Some examples of the title azomethines, e.g., III, were tested as fungicides and bactericides.

RX(145) OF 191 COMPOSED OF REACTION SEQUENCE RX(7), RX(31)
AND REACTION SEQUENCE RX(2), RX(31)
... **S** ===> U...
...2 C + U ===> **BU**

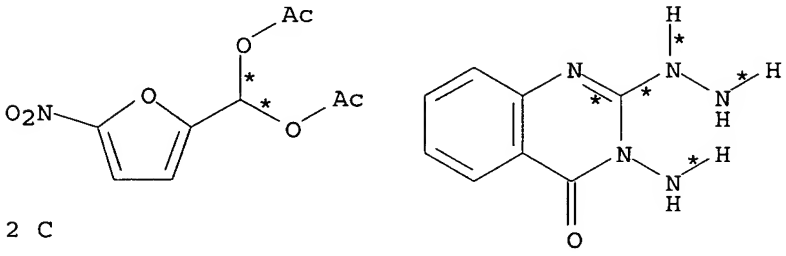


S

2 STEPS

U

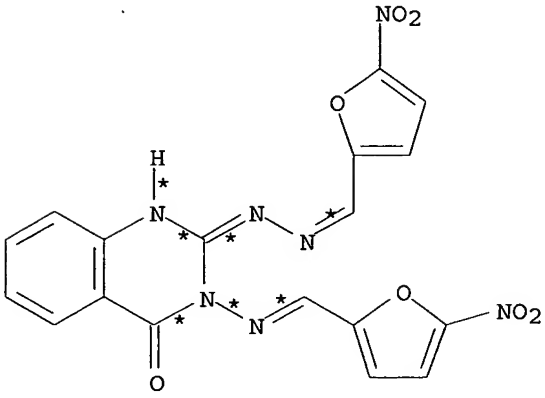
START NEXT REACTION SEQUENCE



2 C

U

2 STEPS



BU
YIELD 100%

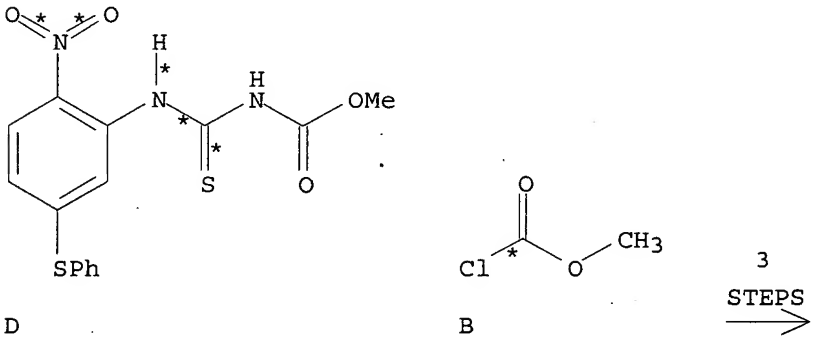
RX(7) RCT S 96221-91-9
RGT J 7803-57-8 N2H4-H2O
PRO U 19062-39-6

RX(2) RCT C 92-55-7
RGT G 7732-18-5 Water, E 7664-93-9 H2SO4
PRO F 698-63-5
SOL 7732-18-5 Water

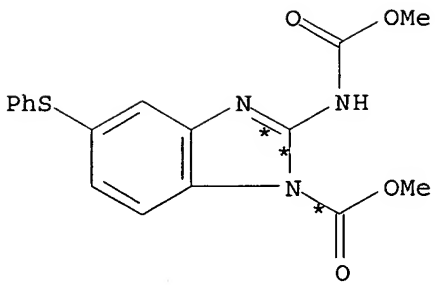
RX(31) RCT U 19062-39-6, F 698-63-5
PRO BU **124608-68-0**
NTE refluxing inert solvent

L47 ANSWER 52 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 110:8117 CASREACT
TITLE: An unambiguous synthesis of 5(6)-substituted 1-alkoxycarbonylbenzimidazole-2-carbamates
AUTHOR(S): Viswanathan, N.; Sidhaye, A. R.
CORPORATE SOURCE: Pharma Div., Hindustan Ciba-Geigy Ltd. Goregaon, Bombay, 400 063, India
SOURCE: Indian Journal of Chemistry, Section B: Organic Chemistry Including Medicinal Chemistry (1988), 27B(7), 672-3
CODEN: IJSBDB; ISSN: 0376-4699
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Benzothiadiazines I (R1 = SPh, H; R2 = H, OMe) underwent ring contraction by treatment with Ph3P to give benzimidazoles II. I were prepared from o-nitroanilines by sequential N-thiocarbamoylation, acylation by ClCO2Me, reduction-cyclization, and acylation with ClCO2Me.

RX(16) OF 20 COMPOSED OF RX(2), RX(3), RX(4)
RX(16) **D** + B ===> **M**



D B



M

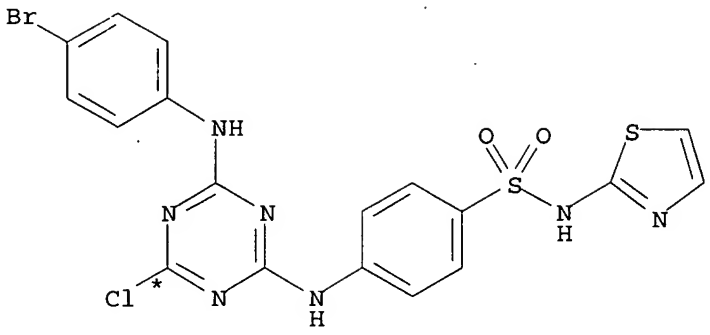
RX(2) RCT D **56069-34-2**
RGT G **7775-14-6** Na2(S2O4), H 1310-73-2 NaOH
PRO F 56068-98-5
SOL 7732-18-5 Water

RX(3) RCT B 79-22-1, F 56068-98-5
RGT K 110-86-1 Pyridine
PRO J 117844-65-2
SOL 67-66-3 CHCl3

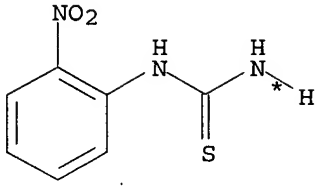
RX(4) RCT J 117844-65-2
RGT N 603-35-0 PPh3
PRO M **58521-87-2**
SOL 67-66-3 CHCl3

L47 ANSWER 53 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 109:170390 CASREACT
TITLE: Preparation of 2-[N4-{N1-(2'-thiazolyl)sulfanilamido}]-4-(4'-bromoanilino)-6-(substituted-phenylthioureido)-s-triazine and study of their antibacterial activity
AUTHOR(S): Desai, K. R.; Patel, N. B.
CORPORATE SOURCE: Dep. Chem., South Gujarat Univ., Surat, 395 007, India
SOURCE: Journal of the Indian Chemical Society (1988), 65(5), 384-5
CODEN: JICSAH; ISSN: 0019-4522
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Title compds. I (R = H, o-Me, m-Me, p-Me, o-NO2, m-NO2, p-NO2, o-Cl, p-Cl) were prepared by treating chloro-s-triazine II with the appropriate RC6H4NHC(S)NH2. II was prepared by treating sulfanilamide III with cyanuric chloride and treating the resulting dichloro-s-triazine IV with p-BrC6H4NH2. I exhibited antibacterial activity against Staphylococcus aureus and Escherichia coli.

RX(7) OF 30 ..**F** + **O** ===> **P**

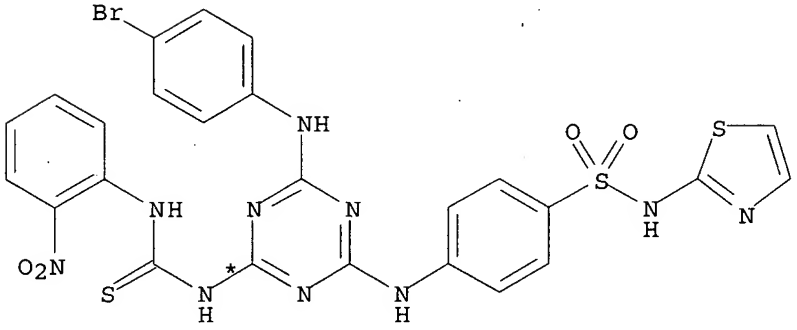


F



O

(7) →



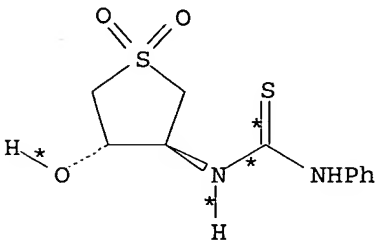
P

RX(7) RCT F **117054-04-3**, O **51039-84-0**
PRO P **117054-09-8**
SOL 67-64-1 Me2CO

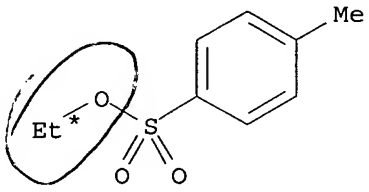
L47 ANSWER 54 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 110:75374 CASREACT
TITLE: Condensed derivatives of thiolane 1,1-dioxide. 1. Synthesis and rearrangement of trans-2-iminoperhydrothieno[3,4-d]oxazole 5,5-dioxides
AUTHOR(S): Bezmenova, T. E.; Rozhenko, A. B.; Khaskin, G. I.; Bratunets, A. G.; Shakhvorost, A. M.
CORPORATE SOURCE: Inst. Fiz.-Org. Khim. Uglekhim., Kiev, USSR
SOURCE: Khimiya Geterotsiklicheskikh Soedinenii (1988), (2), 268-71
CODEN: KGSSAQ; ISSN: 0453-8234
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB Salts of trans-2-iminoperhydrothieno[3,4-d]oxazole 5,5-dioxides I (R = Ph,

PhCH2, Me2CH, allyl, Bz) were prepared by alkylating trans-N-alkyl(aryl)-N'-(3-hydroxy-1,1-dioxothiolan-4-yl)thioureas (II) with p-MeC6H4SO3Et, and also by treating trans-3-hydroxy-4-aminothiolane 1,1-dioxides with BrCN. Addnl. obtained were thienoimidazoles III.

RX(1) OF 30 ...**A** + **B** ===> **C**...

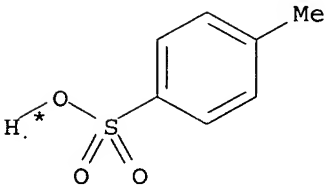


A

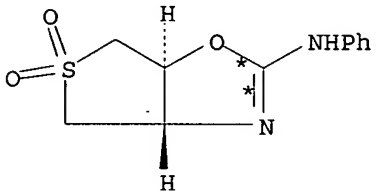


B

(1) →



C: CM 1
YIELD 47%



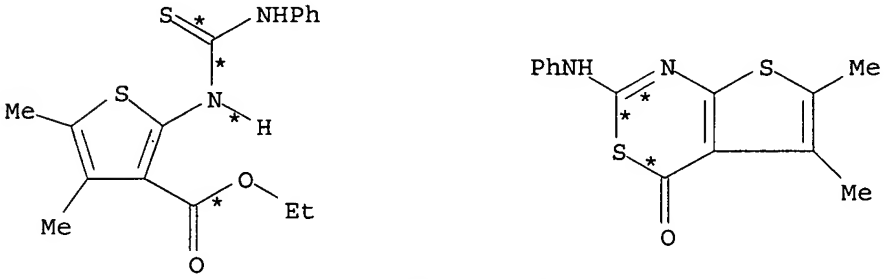
C: CM 2
YIELD 47%

RX(1) RCT A **86043-47-2**, B **80-40-0**
PRO C **118787-42-1**

L47 ANSWER 55 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 108:37754 CASREACT
TITLE: The facile synthesis of 2-aminothieno[2,3-d][1,3]thiazin-4-ones, in some cases 5,6-anellated
AUTHOR(S): Leistner, Siegfried; Guetschow, Michael; Wagner, Guenther
CORPORATE SOURCE: Sekt. Biowiss., Karl-Marx-Univ., Leipzig, DDR-7010, Ger. Dem. Rep.
SOURCE: Synthesis (1987), (5), 466-70
CODEN: SYNTBF; ISSN: 0039-7881
DOCUMENT TYPE: Journal
LANGUAGE: German
AB Acid treatment of Et thioureidothiophenecarboxylates I [R = H, Me; R1 = Me, Ph; RR1 = (CH2)4, CH2(NCH2Ph)(CH2)2; R2 = H, Me, Et; R3 = H, Me, Me2CH, cyclohexyl, Ph, Et, 4-HO2CC6H4, 2-pyridyl; R2R3 = CH2CH2OCH2CH2, CH2CH2NMeCH2CH2, CH2CH2N(CH2CH2OH)CH2CH2, CH2CH2N(CH2CH2OSO3H)] with H2SO4, HClO4, or polyphosphoric acid gave aminothienothiazinones II (X = O). Thiolation of II (R = R1 = Me, R2 = H, R3 = Ph, X = O; R = R1 = Me,

R2R3 = CH2CH2OCH2CH2, X = O) with P2S5 gave II (X = S). Ring cleavage reactions of II with NaOH gave thioureidothiophenecarboxylic acids III (R2,R3 = Me; R2R3 = CH2CH2OCH2CH2, CH2CH2NMeCH2CH2).

RX(20) OF 74 ...I ===> AQ...

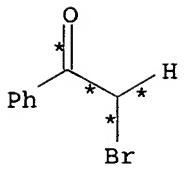


I (20) AQ
YIELD 84%

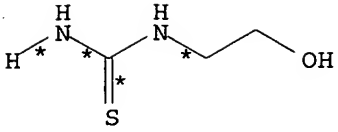
RX(20) RCT I 59898-45-2
RGT AR 7664-93-9 H2SO4
PRO AQ 105544-46-5

L47 ANSWER 56 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 108:94454 CASREACT
TITLE: Synthesis of thiazole derivatives with positive inotropic effect
AUTHOR(S): Kosary, Judit; Kasztreiner, E.; Rabloczky, G.; Vitalis, Beata
CORPORATE SOURCE: Inst. Drug Res., Budapest, H-1325, Hung.
SOURCE: Pharmazie (1987), 42(6), 373-5
CODEN: PHARAT; ISSN: 0031-7144
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Thiazole I (R = H) was prepared by cyclocondensation of PhCOCHBrCO2Et with HOCH2CH2NHCSNH2. I (R = Ac) was prepared by acetylation of I (R = H). Thioxooxazolidinylthiazole II was prepared by cyclization of I (R = H) with CSCl2. I (R = Ac) and II have medium pos. inotropic effects equal to that of isoprotenerol at 5 mg/kg in the cat. Other thiazole derivs. were prepared but possessed weak inotropic activities.

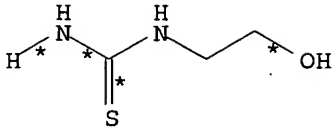
RX(72) OF 86 COMPOSED OF RX(7), RX(26), RX(27), RX(29)
RX(72) K + 3 L ===> BK



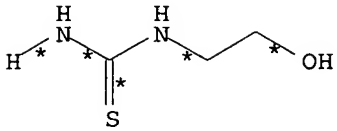
K



L

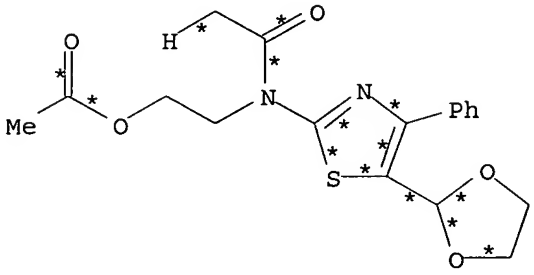


L



L

4
STEPS



BK
YIELD 53%

RX(7) RCT K 70-11-1, L **29146-81-4**
RGT N 127-09-3 AcONa
PRO M 77627-63-5
SOL 64-17-5 EtOH

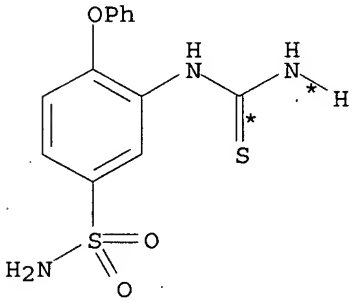
RX(26) RCT M 77627-63-5
RGT AB 108-24-7 Ac2O
PRO BE 113019-82-2
CAT 7664-93-9 H2SO4

RX(27) RCT BE 113019-82-2
RGT BG 10025-87-3 POCl3
PRO BF 113019-83-3
SOL 68-12-2 DMF

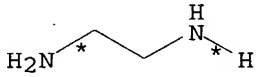
RX(29) RCT BF 113019-83-3
RGT AX 107-21-1 (CH2OH)2, BL **98-59-9** TsCl
PRO BK **113019-85-5**
SOL 71-43-2 Benzene

L47 ANSWER 57 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 105:133804 CASREACT
TITLE: New 2-aryliminoimidazolidines. I. Synthesis and antihypertensive properties of 2-(2-phenoxyphenylimino)imidazolidines and related compounds
AUTHOR(S): Matsuo, Masaaki; Taniguchi, Kiyoshi; Katsura, Yousuke; Kamitani, Toshiharu; Ueda, Ikuo
CORPORATE SOURCE: Cent. Res. Lab., Fujisawa Pharm. Co., Ltd., Osaka, 532, Japan
SOURCE: Chemical & Pharmaceutical Bulletin (1985), 33(10), 4409-21
CODEN: CPBTAL; ISSN: 0009-2363
DOCUMENT TYPE: Journal
LANGUAGE: English
AB 2-(2-Phenoxyphenylimino)imidazolidines I (R = Ph, substituted Ph, R1 = H; R = Ph, R1 = Cl, Me, NO2, cyano, amino, SO2NH2, CF3, OH, OMe, SO2NMe2; R = 4-ClC6H4, R1 = 5-Cl, 5-Me) and related compds. were synthesized and evaluated for hypotensive activity in rats. Most I were synthesized via the aniline derivs. by two different methods. Some were significantly hypotensive, with I (R = Ph, R1 = 5-Cl) may involve the blockade of peripheral α-adrenergic receptors.

RX(27) OF 382 ...**BE** + B ===> **BF**

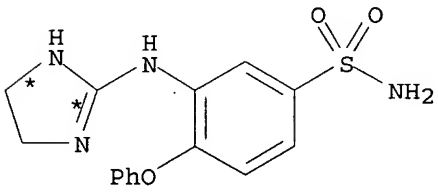


BE



B

(27) →



BF

RX(27) RCT BE **76839-36-6**

STAGE(1)
RGT D 74-88-4 MeI

SOL 67-56-1 MeOH

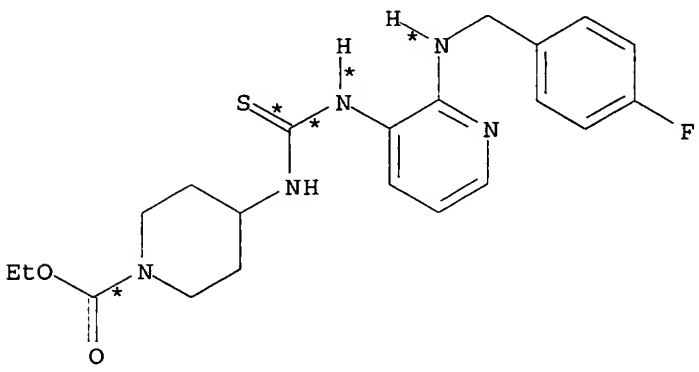
STAGE(2)
RCT B 107-15-3
SOL 64-17-5 EtOH

PRO BF **76841-37-7**

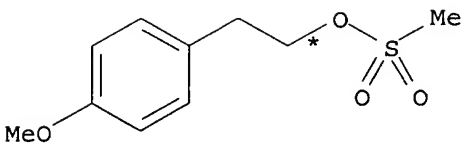
L47 ANSWER 58 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 103:196032 CASREACT
TITLE: New antihistaminic N-heterocyclic 4-piperidinamines. 3. Synthesis and antihistaminic activity of N-(4-piperidinyl)-3H-imidazo[4,5-b]pyridin-2-amines
AUTHOR(S): Janssens, Frans; Torremans, Joseph; Janssen, Marcel; Stokbroekx, Raymond A.; Luyckx, Marcel; Janssen, Paul A. J.
CORPORATE SOURCE: Res. Lab., N. V. Janssen Pharm., Beerse, B-2340, Belg.
SOURCE: Journal of Medicinal Chemistry (1985), 28(12), 1943-7
CODEN: JMCMAR; ISSN: 0022-2623
DOCUMENT TYPE: Journal
LANGUAGE: English

AB To study the bioisosteric replacement of a 2-pyridyl ring for a Ph nucleus in astemizole, a series of N-(4-piperidinyl)-3H-imidazo[4,5-b]pyridin-2-amines I [R = H, F; R1 = (un)substituted alkyl] was synthesized and evaluated. The title compds. were obtained starting from either I (R1 = H) by 4 synthetic methods. The in vivo antihistamine activity was evaluated by the compound 48/80-induced lethality test in rats and the histamine-induced lethality test in guinea pigs after oral and/or s.c. administration. Compound I (R = F, R1 = p-MeOC6H4CH2CH2), the isostere of astemizole, showed the most potent antihistaminic properties in the rat. However, astemizole is superior to I (R = F, R1 = p-MeOC6H4CH2CH2) as to duration of action and total potency.

RX(39) OF 52 COMPOSED OF RX(8), RX(10), RX(11)
RX(39) **O** + **Y** ===> **Z**

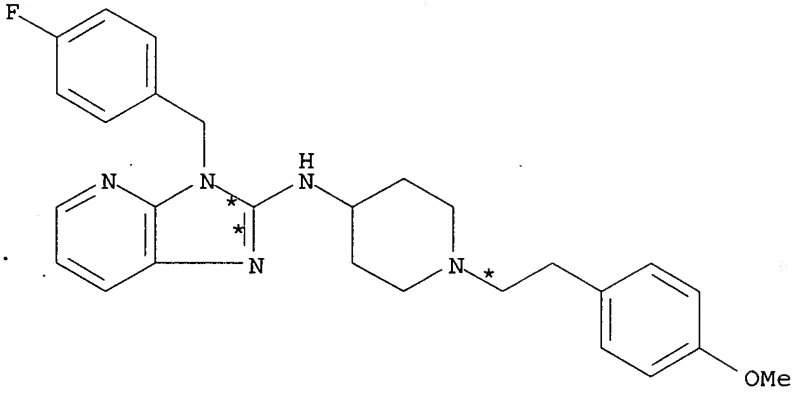


O



Y

3
STEPS



Z

RX(8) RCT O **75971-36-7**
RGT Q 21908-53-2 HgO
PRO T 73733-99-0
CAT 7704-34-9 S
SOL 109-99-9 THF

RX(10) RCT T 73733-99-0
RGT V 10035-10-6 HBr
PRO X 75979-00-9
SOL 7732-18-5 Water

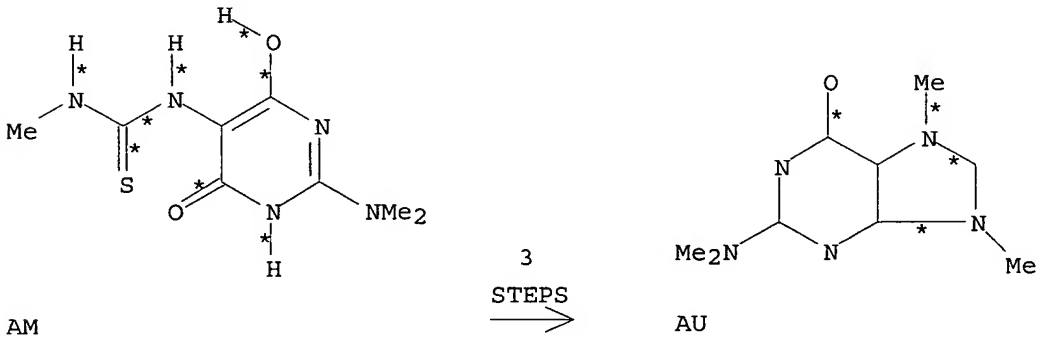
RX(11) RCT Y **73735-36-1**, X 75979-00-9
RGT D 497-19-8 Na2CO3
PRO Z **73755-88-1**
SOL 68-12-2 DMF

L47 ANSWER 59 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 104:168731 CASREACT
TITLE: Nucleoside complexing. A carbon-13 NMR spectroscopic investigation of the metal binding sites in 7-methylguanosine, 7-methylinosine and some related new synthetic betaines
AUTHOR(S): Shinozuka, Kazuo; Wilkowski, Kenneth; Heyl, Barbara L.; Marzilli, Luigi G.
CORPORATE SOURCE: Dep. Chem., Emory Univ., Atlanta, GA, 30322, USA
SOURCE: Inorganica Chimica Acta (1985), 100(1), 141-50

CODEN: ICHAA3; ISSN: 0020-1693
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A 13C NMR spectroscopic study of the binding of various metal species, including hard metal species (Sr, Ba, La, Pr), intermediate metal species (Zn, Cd, Pb), and soft metal species (Pt, Hg), is reported. The 13C NMR shift patterns for the O6 resonance of 7-methylguanosine, 7-methylinosine, 2-(dimethylamino)-7.9-dimethylhypoxanthinium betaine, 2-(diethylamino)-7-methyl-9-propylhypoxanthinium betaine, and the (ethylamino) and 6-thio analogs of the latter betaine suggest that metal species of intermediate 'softness' prefer endocyclic N1 binding over exocyclic O6 to a larger extent than they prefer endocyclic N3 binding over exocyclic O2 binding in cytosine derivs. 2-Dimethylamino-9-methylhypoxanthine I (R,R1 = Me; R2 = Me) was prepared from 5-amino-4,6-dihydroxy-2-dimethylaminopyrimidine II (R3 = NH2, R4 = OH, R5 = NMe2) by addition of MeNCS, ring closure with HCL, and Raney nickel desulfurization. I (R,R1 = H, Et; R2 = Pr) were prepared from II (R3 = NO2, R4 = NH2, R5 = SMe) by treatment with Me2NH, EtNH2, or Et2NH followed by cycloaddns. with Na2S2O4, HCO2H2 and CHCONH2 alkylation with alkyl halides, and deamination with HNO2. I were methylated to give the corresponding hypoxanthinium betaines III.

RX(70) OF 89 COMPOSED OF RX(20), RX(21), RX(23)
RX(70) **AM** ===> **AU**



AM AU

RX(20) RCT AM **101479-46-3**
RGT AO 7647-01-0 HCl
PRO AN 101504-39-6

RX(21) RCT AN 101504-39-6
RGT AQ 7440-02-0 Ni, J 1310-73-2 NaOH
PRO AP 36323-96-3
SOL 7732-18-5 Water
NTE Raney nickel

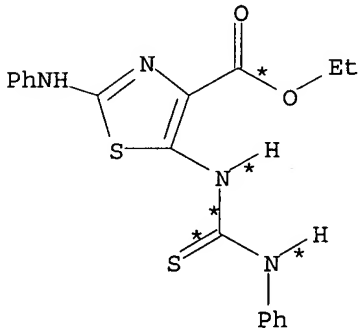
RX(23) RCT AP 36323-96-3
RGT U **77-78-1** Me2SO4
PRO AU **101479-47-4**
SOL 127-19-5 AcNMe2

L47 ANSWER 60 OF 82 CASREACT COPYRIGHT 2007 ACS on STN

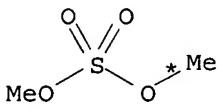
ACCESSION NUMBER: 99:122400 CASREACT
TITLE: Studies on fused-ring mesoionic thiazolo[3,2-a]thiazolo[5,4-d]pyrimidine system
AUTHOR(S): Talukdar, P. B.; Sengupta, S. K.; Datta, A. K.
CORPORATE SOURCE: Res. Dev. Div., East India Pharm. Works Ltd., Calcutta, 700 061, India
SOURCE: Indian Journal of Chemistry, Section B: Organic Chemistry Including Medicinal Chemistry (1983), 22B(3), 243-8
CODEN: IJSBDB; ISSN: 0376-4699
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Cyclodehydration of 5-carboxymethylmercaptothiazolo[5,4-d]pyrimidine-7(6H)-ones I (R = SMe, NHPh; R1 = Me, Ph; R2 = Ph) with Ac2O readily affords new fused-ring mesoionic systems II. I (R2 = H) fail to give pure products under similar treatment, but the thiazolium perchlorate, III were acylated to give pure mesoionic ketones II (R = SMe, R1 = Me, R2 = Ac, COC6H4NO2-4). II furnish alc. adducts.

RX(28) OF 36 COMPOSED OF RX(8), RX(16)
RX(28) **H** + **X** ===> **Y**

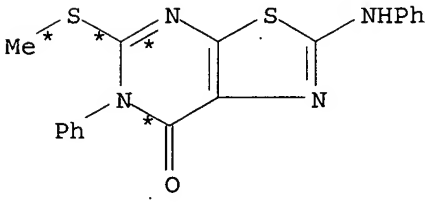


H



X

2 STEPS



Y

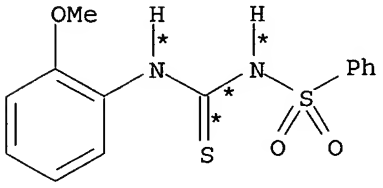
RX(8) RCT H **86998-84-7**
PRO L 86998-88-1

RX(16) RCT L 86998-88-1, X **77-78-1**

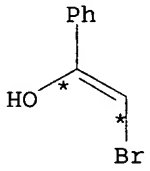
PRO Y 86998-89-2

L47 ANSWER 61 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 99:38400 CASREACT
TITLE: Secondary products of sulfonamides. 5. 2-(Arenesulfonylimino)Δ4-thiazolines from 2-(arenesulfonylimino)-1,3-oxathioles
AUTHOR(S): Hans, Martin; Dehne, Heinz
CORPORATE SOURCE: Sekt. Biol./Chem., Paedagog. Hochsch. "Liselotte Herrmann", Guestrow, DDR-2600, Ger. Dem. Rep.
SOURCE: Zeitschrift fuer Chemie (1983), 23(2), 54
CODEN: ZECEAL; ISSN: 0044-2402
DOCUMENT TYPE: Journal
LANGUAGE: German
AB Iminothiazoles I (X = NC6H4R2; R = H, Me, Cl; R1 = H, NO2; R2 = H, 2-MeO, 4-MeO, 4-Cl) were obtained in 51-87% yield by treating I (X = O) with R2C6H4NH2 and HOAc. I (X = 2-MeOC6H4N, R = R1 = H) was obtained by treating PhSO2N:C(SH)NHC6H4OMe-2 with BrCH2Bz. I (X = NC6H4R2, R = H, R1 = NO2, R2 = H, 2-MeO) were also prepared by this method.

RX(2) OF 10 **E** + F ===> **G**

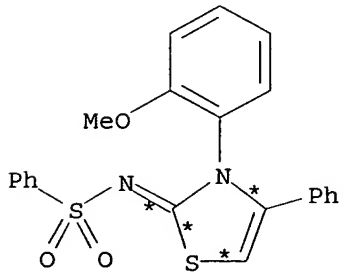


E



F

(2) →



G

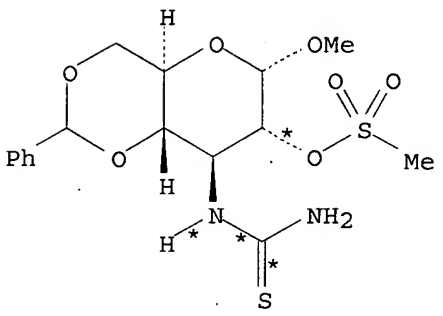
RX(2) RCT E 70318-85-3, F 344397-97-3
PRO G 86379-74-0
SOL 67-56-1 MeOH

L47 ANSWER 62 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 64:36155 CASREACT

TITLE: Synthetic nucleosides. LXVI. Studies on the synthesis of cis-2,3-diamino sugars. 6. Neighboring group reactions with methyl 4,6-O-benzylidene-3-deoxy-2-O-methylsulfonyl-3-thioureido-α-D)-glucopyranoside
AUTHOR(S): Baker, B. R.; Hullar, T. L.
CORPORATE SOURCE: State Univ. of New York, Buffalo
SOURCE: Journal of Organic Chemistry (1965), 30(12), 4045-8
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal
LANGUAGE: English

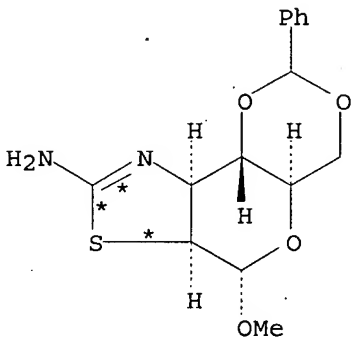
AB cf. preceding abstract Methyl 4,6-O-benzylidene-3-deoxy-2-O-methylsulfonyl-3-thioureido-α-D-glucopyranoside (I) was cyclized in pyridine or in methanolic sodium methoxide solution to give the thiazoline, 2-amino-4',6'-O-benzylidene-1'-O-methyl-α-D-mannopyrano [3',2':4,5] - 2 - thiazoline (II). These results further confirm the view that in a strongly basic medium a sugar derivative possessing a nucleophilic trifunctional neighboring group and a suitable leaving group in a trans-diequatorial disposition will cyclize to form a five-membered ring rather than the thermodynamically less stable aziridine.

RX(1) OF 1 **A** ===> **B**



A

(1)



B
YIELD 85%

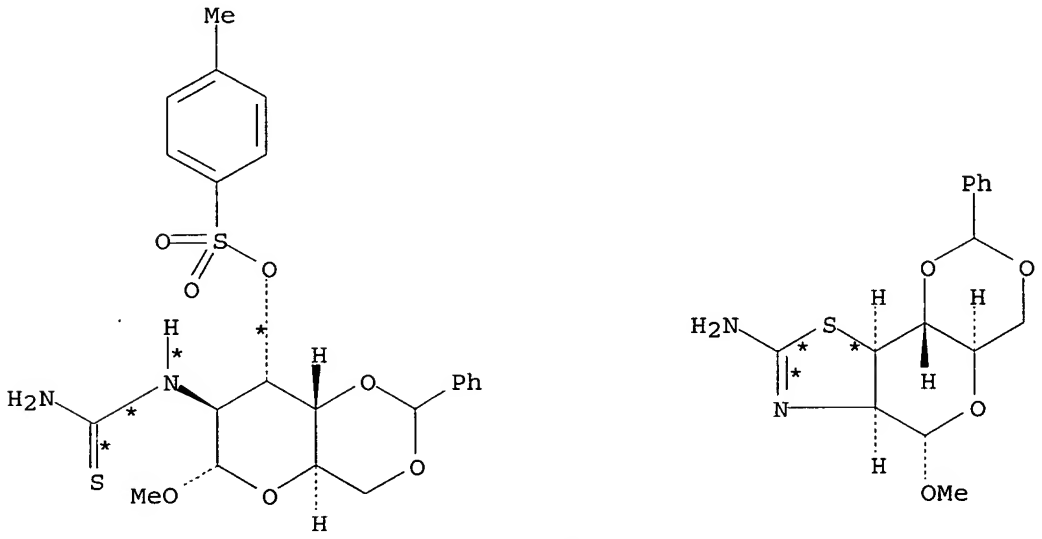
RX(1) RCT A **5983-26-6**
RGT C 75-75-2 MeSO3H
PRO B **6038-66-0**
SOL 110-86-1 Pyridine, 141-78-6 AcOEt
NTE Classification: Cyclisation; Heterocycle formation; Condensation; # Conditions: pyridine Rf 2h; MsOH EtOAc; # Comments: product as MsOH salt

L47 ANSWER 63 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 64:36154 CASREACT
TITLE: Synthetic nucleosides. LXV. Studies on the synthesis of cis-2,3-diamino sugars. 5. Neighboring group reactions with derivatives of methyl 2-amino-4,6-O-benzylidene-2-deoxy-α-D-altropyranoside
AUTHOR(S): Baker, B. R.; Hullar, T. L.

CORPORATE SOURCE: State Univ. of New York, Buffalo
SOURCE: Journal of Organic Chemistry (1965), 30(12), 4038-44
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal
LANGUAGE: English

AB cf. CA 60, 15954f; 63, 5717b. Treatment of methyl 4,6-O-benzylidene-N-cyano-2-deoxy-2-(p-toluenesulfonamido)-3-O-(p-tolylsulfonyl)-α-D-altropyranoside (I) with hydrogen sulfide gave the N-detosylated thioureido derivative, methyl 4,6-O-, benzylidene-2-deoxy-3-O-(p-tolylsulfonyl)-2-thioureido-α-D-altropyranoside (II). Cyclization of II in pyridine or ethanolic solution gave 2-amino-4',6'-O-benzylidene-1'-O-methyl-α-D-mannopyrano[2',3':4,5]-2-thiazoline (III). In contrast, anionic cyclization of the ureido derivative, methyl 4,6-O-benzylidene-2-deoxy-3-O-(p-tolylsulfonyl)-2-ureido-α-D-altropyranoside (IV), gave the aziridine, methyl 4,6-O-benzylidene-N-carbamoyl-2,3-dideoxy-2,3-imino-α-D-mannopyranoside (V). These results further confirm the generality that formation of aziridines readily occurs when the requisite substituents are trans-diaxial to each other. Addition of benzylamine to 10a gave, after cyclization and hydrolysis, a derivative of 2,3-diamino-2,3-dideoxy-D-mannose.

RX(4) OF 5 ..**B** ===> **E**



B E
YIELD 92%

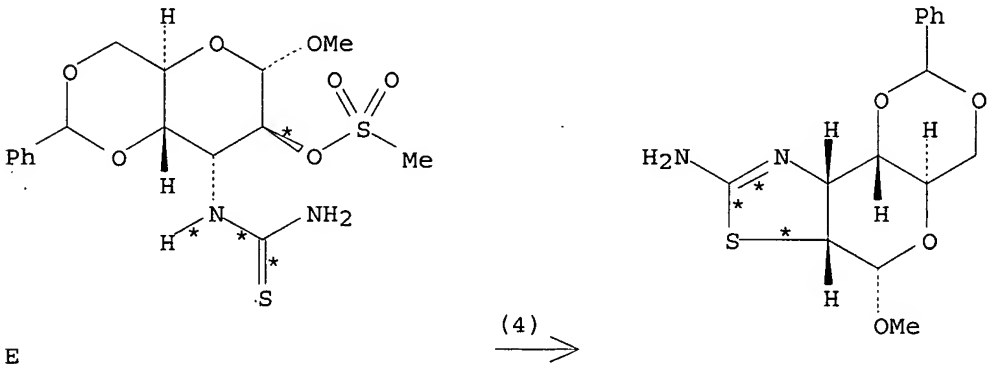
RX(4) RCT B **6167-99-3**
PRO E **6038-63-7**
SOL 64-17-5 EtOH
NTE Classification: Heterocycle formation; Cyclisation; Isomerisation; Condensation; # Conditions: EtOH Rf 30mn; # Comments: product as TsOH salt

L47 ANSWER 64 OF 82 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 60:91148 CASREACT

TITLE: Synthetic nucleosides. LIX. Studies on the synthesis of cis-2,3-diamino sugars. 2. The thiourea neighboring group
AUTHOR(S): Baker, B. R.; Neilson, Thomas
CORPORATE SOURCE: State Univ. of New York, Buffalo
SOURCE: Journal of Organic Chemistry (1964), 29(5), 1051-6
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB Neighboring group ring closure of the N-thiocarbamoyl derivative (I) of Me 3-amino-4,6-O-benzylidene-3-deoxy-2-O-mesyl-α-D-altropyranoside under acid acceptor conditions gave a thiazolino sugar (II). When the anion of I was cyclized, an N-thiocarbamoylimine derivative (III) was obtained rather than the expected imidazoline. That the ring closure of I to III could not be attributed to the fixed trans-diaxial conformations of attacking and leaving groups was shown by the anionic ring closure of IV. (MS = mesyl); since the participating groups in the anionic ring closure of IV can assume either trans-diaxial or trans-diequatorial conformations with little energy difference, the formation of the N-thiocarbamoyl imine rather than an imidazoline must be attributed to factors apparently more important than the conformational factors. The N-thiocarbamoyl derivative (V) of Me 2-amino-4,6-O-benzylidene-2-deoxy-3-O-mesyl-β-D-glucopyranoside, which has trans-diequatorial participating groups, ring-closed to a thiazoline (VI) under acid acceptor conditions. In contrast to I, anionic ring closure of V did not lead to N attack to form either an imine or an imidazoline; S attack took place to give the same thiazoline (VI) obtained under acid acceptor conditions.

RX(4) OF 4 **E** ===> **J**



E

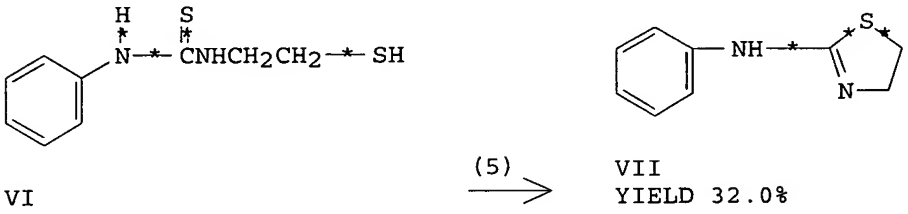
J
YIELD 70%

RX(4) RCT E 106759-07-3
PRO J 557099-35-1
SOL 110-86-1 Pyridine
NTE Classification: Cyclisation; Heterocycle formation; Condensation; Diastereoselective; # Conditions: pyridine Rf 1h

=> d bib ab fhit 65
YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS, CASREACT, CHEMINFORMRX' - CONTINUE?
(Y)/N:y

L47 ANSWER 65 OF 82 CHEMINFORMRX COPYRIGHT 2007 FIZ CHEMIE on STN
AN 200506046 CHEMINFORMRX
TI A Convenient Method for the Synthesis of 2-Amino Substituted aza-Heterocycles from N,N'-Disubstituted Thioureas Using TsCl/NaOH.
AU HEINELT, U.; SCHULTHEIS, D.; JAEGER, S.; LINDENMAIER, M.; POLLEX, A.; BECKMANN, H. S. G.
CS Aventis Pharma Dtschl. GmbH, D-65926 Frankfurt/M., Germany
SO Tetrahedron, 60(44), 9883-9888 (2004)
CODEN: TETRAB ISSN: 0040-4020
LA English

RX(5) OF 13 O ===> P



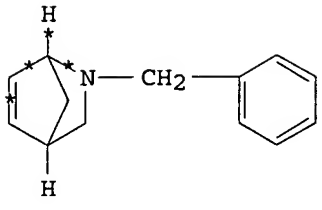
VI (5) VII YIELD 32.0%

RX(5) RCT VI, **1059911**
RGT **1179** (98-59-9), TosCl
1159 (1310-73-2), NaOH
SOL 206 (109-99-9), THF
222 (7732-18-5), H2O
PRO VII, **887254**
YDS 32.0 %
KW alkylation; S-alkylation
NTE reaction:VI -> VII

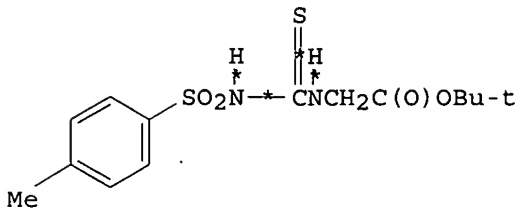
=> d bib ab fhit 66-82
YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS, CASREACT, CHEMINFORMRX' - CONTINUE?
(Y)/N:y

L47 ANSWER 66 OF 82 CHEMINFORMRX COPYRIGHT 2007 FIZ CHEMIE on STN
AN 200502157 CHEMINFORMRX
TI A 1,3-Diaza-Claisen Rearrangement that Affords Guanidines.
AU BOWSER, A. M.; MADALENGOITIA, J. S.
CS Dep. Chem., Univ. Vt., Burlington, VT 05405, USA
SO Org. Lett., 6(19), 3409-3412 (2004)
CODEN: ORLEF7 ISSN: 1523-7060
LA English
AB The first example of a zwitterionic 1,3-diaza-Claisen rearrangement to give guanidine products is presented. The reaction proceeds in modest to good yields and is fairly functional group tolerant.

RX(3) OF 8 A + H ===> I

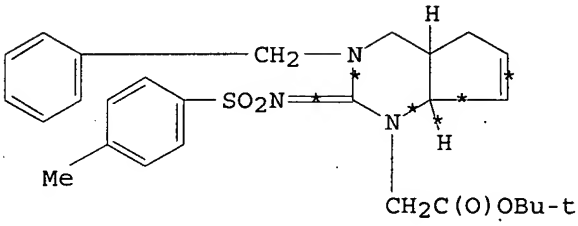


I



II

(3) →

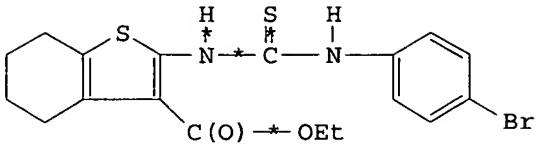


III
YIELD 71.0%

RX(3) RCT I, 481150
II, **1056632**
RGT 1087 (1892-57-5), EDC
SOL 60 (75-09-2), CH2Cl2
PRO III, **1056633**
YDS 71.0 %
T 25.0 Cel
TIM 16 hr
KW alkylation; N-alkylation
NTE reaction:I (II) -> III, example: 3

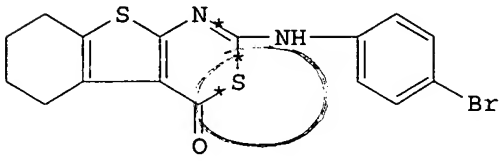
L47 ANSWER 67 OF 82 CHEMINFORMRX COPYRIGHT 2007 FIZ CHEMIE on STN
AN 200418091 CHEMINFORMRX
TI Synthesis and Transformations of 3-Ethoxycarbonyl-2-(N-R-thioureido)thiophenes.
AU CHUMAKOVA, L. Y.; DEMCHENKO, A. M.; KRASOVSKY, A. N.; DOLISHNYAK, T. V.; LOZINSKII, M. O.
CS Shevchenko Pedagog. Univ., Chernigov 250037, Ukraine
SO Chem. Heterocycl. Compd. (N. Y.), 39(8), 1002-1012 (2003)
CODEN: CHCCAL ISSN: 0009-3122
LA English
AB The synthesis of title thioureido-tetrahydrobenzothiophenes (III) is smoothly achieved by reaction of the corresponding isothiocyanate (I) with primary or secondary amines (II). Cyclization proceeds in the presence of acid to furnish thiazino-fused tetrahydrobenzothiophenes like (V), while the pyrimidino-fused analogues (IV) and (VIII) are obtained under alkaline conditions. Further alkylation proceeds at the sulfur exclusively [cf. (X)].

RX(14) OF 34 ...H ===> AA



III

(14)

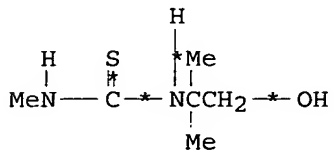


V
YIELD 67.0%

RX(14) RCT III, 1005144
RGT 198 (7664-93-9), H2SO4
PRO V, 1005155
YDS 67.0 %
T 18.0 - 20.0 Cel
KW acylation; S-acylation
NTE reaction:IIIc -> V

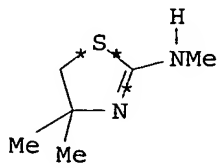
L47 ANSWER 68 OF 82 CHEMINFORMRX COPYRIGHT 2007 FIZ CHEMIE on STN
AN 200326075 CHEMINFORMRX
TI N-Benzyloxycarbonyl-2-methylaminothiazoline as a Selective Benzyloxycarbonylating Reagent of Amines.
AU KIM, T. H.; CHUN, J. C.
CS Fac. Appl. Chem., Chonnam Natl. Univ., Kwangju 500-757, S. Korea
SO Bull. Korean Chem. Soc., 24(2), 157-158 (2003)
CODEN: BKCSDE ISSN: 0253-2964
LA English
AB N-Benzyloxy- and N-t-butoxycarbonyl-2-methylaminothiazolines (VI) serve as new agents for the selective alkoxycarbonylation of less hindered amines in the presence of more hindered amines.

RX(2) OF 36 ...C ===> E...



III

(2)



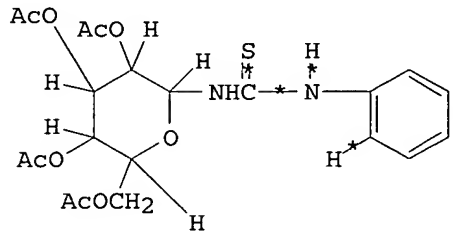
IV
YIELD 83.0%

RX(2) RCT III, 683225
RGT 1179 (98-59-9), TosCl

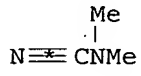
1159 (1310-73-2), NaOH
SOL 206 (109-99-9), THF
PRO IV, **932241**
YDS 83.0 %
T 25.0 Cel
KW alkylation; S-alkylation
NTE reaction:III -> IV

L47 ANSWER 69 OF 82 CHEMINFORMRX COPYRIGHT 2007 FIZ CHEMIE on STN
AN 200317174 CHEMINFORMRX
TI Novel and Efficient Synthesis of 4-Dimethylamino-2-glycosylaminoquinazolines by Cyclodesulfurization of Glycosyl Thioureas with Dimethylcyanamide.
AU GAMA, Y.; SHIBUYA, I.; SHIMIZU, M.
CS Natl. Inst. Adv. Ind. Sci. Technol., Tsukuba, Ibaraki 305, Japan
SO Chem. Pharm. Bull., 50(11), 1517-1519 (2002)
CODEN: CPBTAL ISSN: 0009-2363
LA English
AB Mechanistical aspects are discussed.

RX(1) OF 4 A + B ===> C

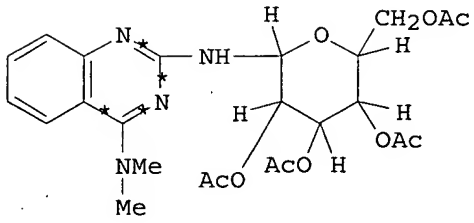


I



II

(1) →



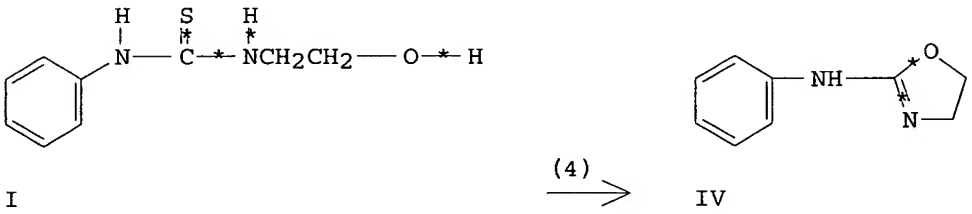
III
YIELD 67.0%

RX(1) RCT I, **940681**, CHIRAL
II, 9255 (1467-79-4)
STAGE(1)
RGT **695** (2923-28-6), AgOTf
T 100.0 Cel
STAGE(2)
RGT 1159 (1310-73-2), NaOH
SOL 83 (141-78-6), Et-O-Ac
PRO III, **940682**, CHIRAL

YDS 67.0 %
KW aromatisation; alkylation; N-alkylation; C-alkylation; arylation
NTE reaction:I* 1.(II) -> III*, example: 1

L47 ANSWER 70 OF 82 CHEMINFORMRX COPYRIGHT 2007 FIZ CHEMIE on STN
AN 200228057 CHEMINFORMRX
TI Investigation of the Cyclization of N-(2-Hydroxyethyl)-N'-phenylthioureas: Mitsunobu Conditions vs TsCl/NaOH System.
AU LEE, G.-J.; KIM, J. N.; KIM, T. H.
CS Fac. Appl. Chem., Chonnam Natl. Univ., Kwangju 500-757, S. Korea
SO Bull. Korean Chem. Soc., 23(1), 19-20 (2002)
CODEN: BKCSDE ISSN: 0253-2964
LA English
AB Intramolecular Mitsunobu reaction of the title N-hydroxyethylthioureas (I) provides mainly N- and S-cyclization products (II) and (III), resp., while regioselective formation of O-alkylation products (IV) is observed in TosCl/NaOH-mediated cyclization reactions. Thioureas bearing an additional N-alkyl substituent such as (V) are unable to afford O-alkylation products due to the hindered formation of carbodiimide intermediates.

RX(4) OF 8 A ===> D

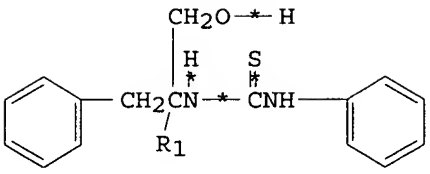


I (4) IV

RX(4) RCT I, **582417**
RGT **1179** (98-59-9), TosCl
1159 (1310-73-2), NaOH
SOL 206 (109-99-9), THF
PRO IV, **582418**
T 25.0 Cel
KW alkylation; O-alkylation; etherification
NTE reaction:I -> IV, example: 1

L47 ANSWER 71 OF 82 CHEMINFORMRX COPYRIGHT 2007 FIZ CHEMIE on STN
AN 200150113 CHEMINFORMRX
TI A Mild Cyclodesulfurization of N-(2-Hydroxyethyl)-N'-phenylthioureas to 2-Phenylamino-2-oxazolines Using TsCl/NaOH.
AU KIM, T. H.; LEE, N.; LEE, G.-J.; KIM, J. N.
CS Fac. Appl. Chem., Chonnam Natl. Univ., Kwangju 500-757, S. Korea
SO Tetrahedron, 57(33), 7137-7141 (2001)
CODEN: TETRAB ISSN: 0040-4020
LA English
AB Treatment of thiourea derivatives with TosCl/NaOH leads to oxazolines, thiazolines, and/or imidazolidines depending on the N-substituents. This offers a new entry to the synthesis of 2-phenylamino-2-oxazolines which are of biological interest.

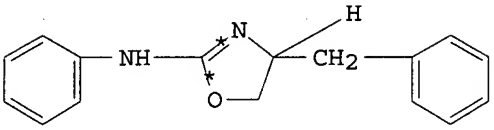
RX(1) OF 10 A ===> B



H
|
R_1

I

(1) →



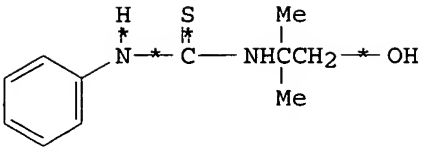
II
YIELD 90.0%

RX(1) RCT I, **721322**, (S)-isomer
RGT **1179** (98-59-9), TosCl
1159 (1310-73-2), NaOH
SOL 206 (109-99-9), THF
222 (7732-18-5), H2O
PRO II, **846895**, (S)-isomer
YDS 90.0 %
T 25.0 Cel
KW alkylation; O-alkylation; etherification
NTE reaction:(S)-I -> (S)-II, example: 1

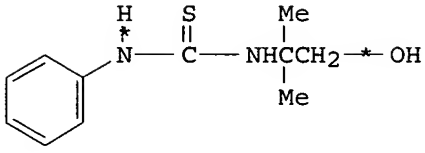
L47 ANSWER 72 OF 82 CHEMINFORMRX COPYRIGHT 2007 FIZ CHEMIE on STN

AN 200112133 CHEMINFORMRX
TI Ring Closure of N-(2-Hydroxyethyl)-N'-phenylthioureas: One-Pot Synthesis of 2-Phenylaminothiazolines.
AU KIM, T. H.; MIN, J. K.; LEE, G.-J.
CS Fac. Appl. Chem., Chonnam Natl. Univ., Kwangju 500-757, S. Korea
SO Bull. Korean Chem. Soc., 21(9), 919-922 (2000)
CODEN: BKCSDE ISSN: 0253-2964
LA English
AB 2-Phenylaminothiazolines (IV) (8 examples) are synthesized in a mild one-pot synthesis by S-cyclization of the corresponding readily available phenylthioureas (III).

RX(4) OF 11 ...2 C ===> I + J

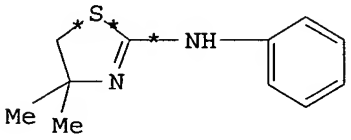


III

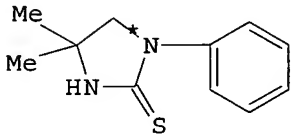


III

(4) →



IV
YIELD 94.0%

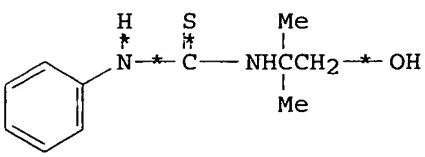


V
YIELD 0.0%

RX(4) RCT III, **721315**
RGT **1179** (98-59-9), TosCl
1159 (1310-73-2), NaOH
SOL 222 (7732-18-5), H2O
206 (109-99-9), THF
PRO IV, **721318**
V, 797425
YDS 94.0 %
T 25.0 Cel
KW alkylation; S-alkylation; N-alkylation
NTE reaction:III -> IV + V, example: 1

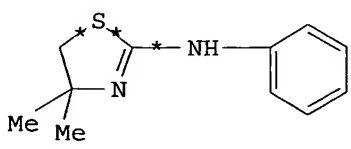
L47 ANSWER 73 OF 82 CHEMINFORMRX COPYRIGHT 2007 FIZ CHEMIE on STN
AN 200005139 CHEMINFORMRX
TI One-Pot Synthesis of 2-Phenylaminothiazolines from N-(2-Hydroxyethyl)-N'-phenylthioureas.
AU KIM, T. H.; MIN, J. K.; LEE, G.-J.
CS Fac. Appl. Chem., Chonnam Natl. Univ., Kwangju 500-757, S. Korea
SO Tetrahedron Lett., 40(47), 8201-8204 (1999)
CODEN: TELEAY ISSN: 0040-4039
LA English
AB A successful mild synthetic method for 2-phenylaminothiazoles from 1,2-amino alcohols is developed. The readily available thiourea precursors (III) react under one-pot conditions using Tos-Cl in the presence of base.

RX(4) OF 15 ...C ===> I



III

(4) →

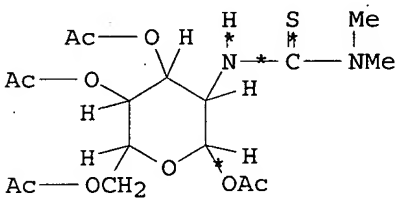


IV
YIELD 94.0%

RX(4) RCT III, 721315
RGT 1179 (98-59-9), TosCl
1159 (1310-73-2), NaOH
SOL 206 (109-99-9), THF
PRO IV, 721318
YDS 94.0 %
T 25.0 Cel
TIM 0.5 hr
KW alkylation; S-alkylation
NTE reaction:III -> IV, example: 1

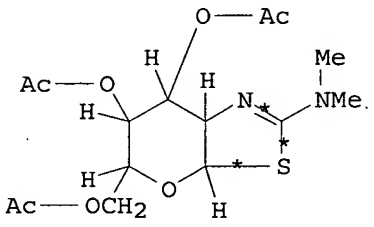
L47 ANSWER 74 OF 82 CHEMINFORMRX COPYRIGHT 2007 FIZ CHEMIE on STN
AN 199742250 CHEMINFORMRX
TI An Allosamizoline/Glucosamine Hybrid NAGase Inhibitor.
AU KNAPP, S.; KIRK, B. A.; VOCADLO, D.; WITHERS, S. G.
CS Dep. Chem., Rutgers State Univ. N. J., Piscataway, NJ 08855, USA
SO Synlett(5), 435-436 (1997)
CODEN: SYNLES ISSN: 0936-5214
LA English
AB Title compound (V) is prepared for structure-activity studies concerning the oxazoline moiety in allosamidin. Compared to the known powerful inhibitor (VI) of jack bean NAGase, the activity of (V) is considerably decreased.

RX(2) OF 6 ...C ===> E...



III

(2)



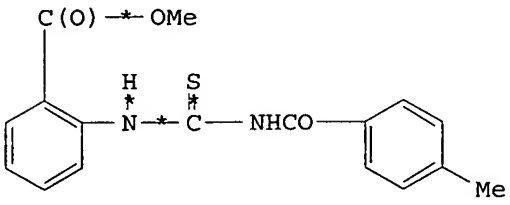
IV
YIELD 71.0%

RX(2) RCT III, 558364, CHIRAL
RGT 1765 (79271-56-0), Et3Si-O-Tf
5172 (70955-01-0;69912-79-4;63231-69-6), molecular sieves
SOL 36 (67-66-3), CHCl3
PRO IV, 558365, CHIRAL
YDS 71.0 %
T 0.0 Cel
KW alkylation; S-alkylation
NTE reaction:III* -> IV*

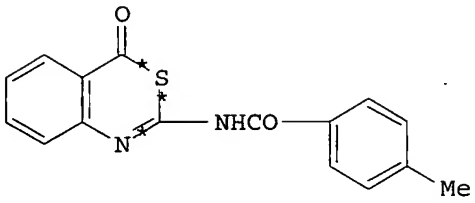
L47 ANSWER 75 OF 82 CHEMINFORMRX COPYRIGHT 2007 FIZ CHEMIE on STN
AN 199640158 CHEMINFORMRX
TI Novel Heterocycles Derived from Substituted Aroylthioureas: Synthesis of 3,1-Benzothiazin-4-ones, Thieno(3,2-d)(1,3)thiazin-4-ones and 1,2,4-Thiadiazolo(2,3-a)(3,1)benzothiazin-5-ones.
AU GUETSCHOW, M.
CS Inst. Pharm., Pharm. Chem., Univ. Leipzig, D-04103 Leipzig, Germany
SO J. Heterocycl. Chem., 33(2), 355-360 (1996)

CODEN: JHTCAD ISSN: 0022-152X
LA English
AB Ring closure reaction of heterocyclic aroylthioureas are investigated. Thus, acidic treatment leads to 3,1-benzothiazinones whereas oxidative ring closure gives thiazoles such as (VII) or the quinazolinedione (IX) . Product (XVI) represents a new heterocyclic system.

RX(2) OF 11 ...C ===> E



III (2) →



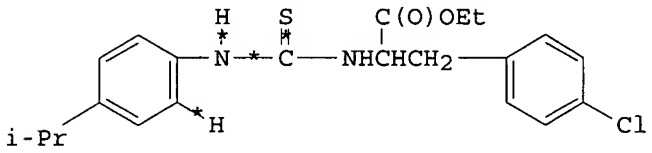
IV
YIELD 80.0%

RX(2) RCT III, 489793
RGT 198 (7664-93-9), H2SO4
PRO IV, 489794
YDS 80.0 %
T 25.0 Cel
TIM 48 hr
KW acylation; S-acylation
NTE reaction:III -> IV

L47 ANSWER 76 OF 82 CHEMINFORMRX COPYRIGHT 2007 FIZ CHEMIE on STN
AN 199434152 CHEMINFORMRX
TI Benzoxazolamines and Benzothiazolamines: Potent, Enantioselective Inhibitors of Leukotriene Biosynthesis with a Novel Mechanism of Action.
AU LAZER, E. S.; MIAO, C. K.; WONG, H.-C.; SORCEK, R.; SPERO, D. M.; GILMAN, A.; PAL, K.; BEHNKE, M.; GRAHAM, A. G.; WATROUS, J. M.; HOMON, C. A.; NAGEL, J.; SHAH, A.; GUINDON, Y.; FARINA, P. R.; ADAMS, J.
CS Dep. Med. Chem., Boehringer Ingelheim Pharm., Inc., Ridgefield, CT 06877, USA
SO J. Med. Chem., 37(7), 913-923 (1994)
CODEN: JMCMAR ISSN: 0022-2623
LA English
AB Based on (S)-N-(benzothiazol-2-yl)phenylalanine ethyl ester as efficient inhibitor of Ca-ionophore-stimulated leukotriene biosynthesis in human neutrophils, a series of other benzothiazolamine analogues (15 compounds),

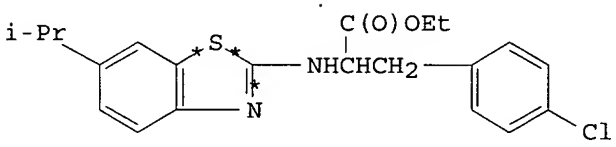
e.g. (IV), and benzoxazolamine analogues (55 compounds), e.g. (VIII), (XV), or (XXII), is prepared by structural modification and obtained in racemic or enantiomerically pure form. Hydrophobic substituents in 5-position of the benzoxazole ring and replacement of the phenyl group with a cyclohexyl group in the amino acid moiety improve the inhibitory activity thus leading to the S- enantiomer of (XV) as the most potent derivative. The title compounds are not inhibitors of 5-lipoxygenase, but act at the level of arachidonic acid release.

RX(2) OF 26 ...C ===> E



III

(2) →

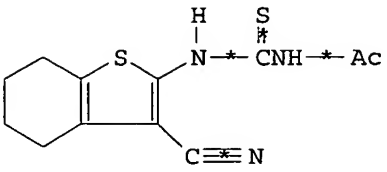


IV
YIELD 68.0%

RX(2) RCT III, **329581**
RGT **199** (7791-25-5), SO2Cl2
SOL 35 (108-90-7), PhCl
PRO IV, **329582**
YDS 68.0 %
T 0.0 Cel
KW arylation
NTE reaction:III -> IV

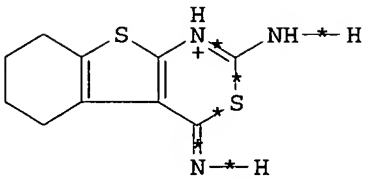
L47 ANSWER 77 OF 82 CHEMINFORMRX COPYRIGHT 2007 FIZ CHEMIE on STN
AN 199352205 CHEMINFORMRX
TI Reactivity of Esters and Nitriles of 2-(3-Acylthioureido)-4,5,6,7-tetrahydrobenzo(b)thiophene-3-carboxylic Acids. Part 1. Acid-Catalyzed Cyclization and Desulfanation Reaction in the Presence of Secondary Amines.
AU PAZDERA, P.; PREISSOVA, I.
CS Dep. Org. Chem., Fac. Nat. Sci., Masaryk Univ., 61137 Brno, Czech Rep.
SO Chem. Zvesti, 46(6), 396-405 (1992)
CODEN: CHZVAN ISSN: 0366-6352
LA English
AB The title compounds such as (I) and (V) undergo ring closure on treatment with concentrate sulfuric acid to yield fused tricyclic systems, e. g. (II). With secondary amines, the guanidines (IV) and (VI) are obtained, which can be cyclized to give fused pyrimidines as shown with the formation of (VII).

RX(1) OF 9 A ===> B



I

(1)



II: CM 1
YIELD 88.0-95.0%

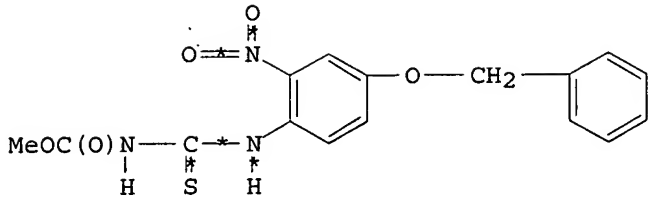
ClO_4^-

II: CM 2
YIELD 88.0-95.0%

RX(1) RCT I, **282225** (127981-99-1)
STAGE(1)
RGT **198** (7664-93-9), H2SO4
T 25.0 Cel
TIM 48 - 96 hr
STAGE(2)
RGT 164 (7601-90-3), HClO4
SOL 222 (7732-18-5), H2O
T 0.0 - 20.0 Cel
TIM 2.0 - 3.0 hr
PRO II, **282226**
YDS 88.0 - 95.0 %
KW alkylation; S-alkylation
NTE reaction:I -> II

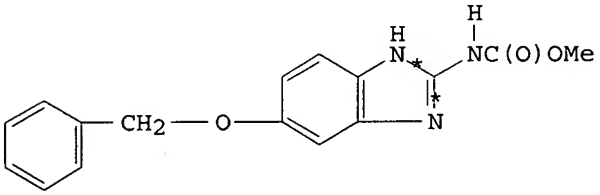
L47 ANSWER 78 OF 82 CHEMINFORMRX COPYRIGHT 2007 FIZ CHEMIE on STN
AN 199237151 CHEMINFORMRX
TI Synthesis, Antineoplastic and Anthelmintic Activities of N-Alkyloxycarbonyl-N'-(4-benzyloxy-2-nitrophenyl)thioureas as Prodrugs of (6-Benzyloxy-1H-benzimidazol-2-yl)carbamic Acid Ester.
AU BERA, T.; BELSARE, D. P.
CS Sai Udyan Apartment, Mangal Nagar, Nashik 422 002, India
SO Indian J. Chem., Sect. B, 31(6), 370-372 (1992)
CODEN: IJSBDB ISSN: 0376-4369
LA English
AB Biological activities of the compounds (VI) and (VII) are evaluated against Ehrlich ascites carcinoma, ascaris and hymenolepsis infected animals. The methyl carbamates (VIa) and (VIIa) cause 90 to 100% elimination of ascaris and hymenolepsis species while the ethyl carbamates (VIb) and (VIIb) show poor activity. Fermentation of (VIa) with E. coli results in the formation of the cyclic product (VIIa). Compound (VIa) cannot be considered as a prodrug of (VIIa) as expected, because the former is not inert and is rather more active than the latter.

RX(4) OF 11 ...H ===> N



VI

(4)

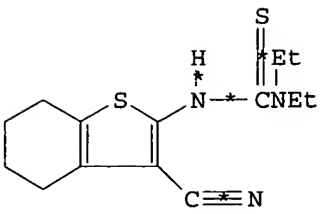


VII
YIELD 96.0%

RX(4) RCT VI, **67512** (142646-10-4)
RGT **1218** (7775-14-6), Na2S2O4
SOL 123 (67-56-1), MeOH
PRO VII, **67514** (54029-21-9)
YDS 96.0 %
T.KW REFLUX
KW alkylation; N-alkylation
NTE reaction:VI -> VII, example: 1
CMT Ratio = 1:9 for products 1,2

L47 ANSWER 79 OF 82 CHEMINFORMRX COPYRIGHT 2007 FIZ CHEMIE on STN
AN 199236203 CHEMINFORMRX
TI Polycyclic Azines with Heteroatoms in the 1- and 3-Position. Part 27. One-Pot Synthesis of 4-Acylimino-2-aminothieno(2,3-d)(1,3)thiazines from 2-Thioureidothiophene-3-carbonitriles.
AU GUETSCHOW, M.; LEISTNER, S.; PINK, M.
CS Lehrstuhl Pharm. Chem., Univ. Leipzig, O-7010 Leipzig, Fed. Rep. Ger.
SO J. Heterocycl. Chem., 29(2), 279-282 (1992)
CODEN: JHTCAD ISSN: 0022-152X
LA English
AB The reaction of the title carbonitriles (I) with propionic anhydride proceeds analogously to the reaction described in the scheme. The structure of the product (IIIb) is confirmed by X-ray analysis.

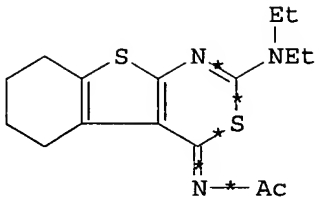
RX(3) OF 3 G + B ===> H



I

II

(3) ⟶

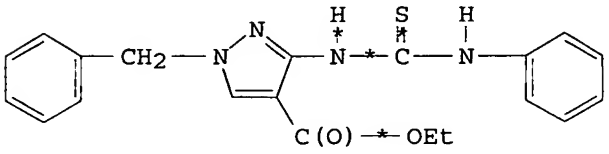


III
YIELD 89.0%

RX(3) RCT I, **66633** (128342-47-2)
II, 4 (108-24-7)
RGT **198** (7664-93-9), H2SO4
PRO III, **66634**
YDS 89.0 %
TIM 96 hr
KW acetylation; acylation; N-acylation; alkylation; S-alkylation
NTE reaction:I (II) -> III, example: 3
CMT #E0100:(diastereom. mix.)

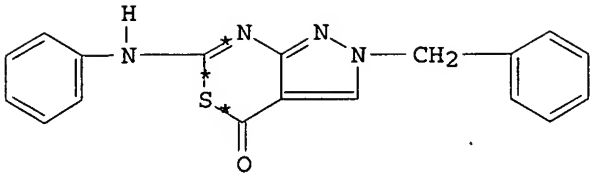
L47 ANSWER 80 OF 82 CHEMINFORMRX COPYRIGHT 2007 FIZ CHEMIE on STN
AN 199207162 CHEMINFORMRX
TI New Pyrazole Derivatives. Part 4. Preparation and Cyclization of Some Acceptor-Substituted N-(Pyrazol-3-yl)-thioureas.
AU EISENAECHER, TH.; PECH, R.; BOEHM, R.
CS Fachbereich Pharm., Martin-Luther-Univ. Halle-Wittenberg, O-4050 Halle/S., Fed. Rep. Ger.
SO J. Prakt. Chem., 333(3), 437-446 (1991)
CODEN: JPCEAO ISSN: 0021-8383
LA German
AB The title compounds (III) (25 examples) can also be obtained by interaction of (I) with thiophosgene and reaction of the 2-isothiocyanatopyrazoles thus obtained with amines. Cyclization with NaOH in methanol leads to thiones of type (IV) (10 examples) which, on alkylation, form 6-alkylthio derivatives. Acid-initiated cyclization gives thiazin-4-ones such as (V) (9 examples).

RX(8) OF 10 ...F ===> R



III

(8) ⟶

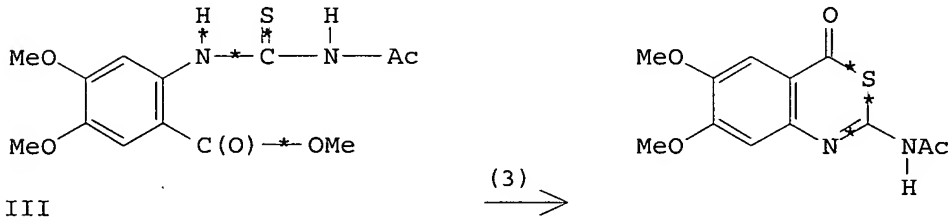


V
YIELD 14.0%

RX(8) RCT III, **19421** (36074-77-8)
RGT **198** (7664-93-9), H2SO4
PRO V, **19429** (136603-40-2)
YDS 14.0 %
KW acylation; S-acylation
NTE reaction:IIIb -> V

L47 ANSWER 81 OF 82 CHEMINFORMRX COPYRIGHT 2007 FIZ CHEMIE on STN
AN 199147198 CHEMINFORMRX
TI Polycyclic Azines with Heteroatoms in Position 1 and 3. Part 30. Synthesis of 6,7-Dimethoxy-Substituted 3,1-Benzothiazin-4-ones.
AU GUETSCHOW, M.; HEINECKE, K.; THIEL, W.; LEISTNER, S.
CS Lehrstuhl Pharm. Chem., Sekt. Biowiss., Univ., O-7010 Leipzig, Fed. RepGer.
SO Arch. Pharm. (Weinheim, Ger.), 324(7), 465-466 (1991)
CODEN: ARPMAS ISSN: 0365-6233
LA German
AB The dimethoxy-ortho-aminobenzoate (I) reacts with the isothiocyanates (II) to form the N-acylthioureas (III). These are treated with concentrated sulfuric acid under various conditions to undergo cyclocondensation, yielding the aminobenzothiazinone derivatives (IV) - (VII).

RX(3) OF 10 ...C ===> H



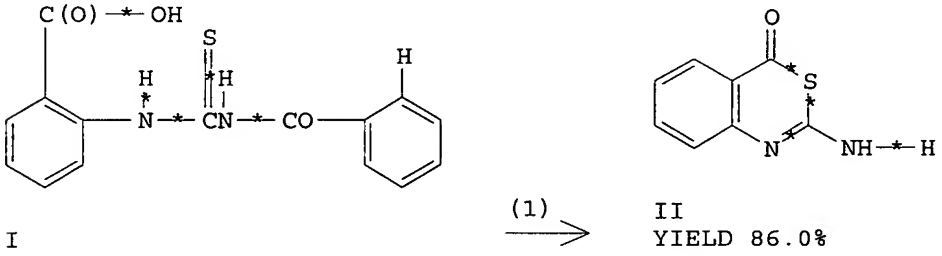
III

IV
YIELD 46.0%

RX(3) RCT III, **195853** (134241-04-6)
RGT **198** (7664-93-9), H2SO4
PRO IV, **195855** (134241-03-5)
YDS 46.0 %
T 25.0 Cel
TIM 3.0 hr
KW acylation; S-acylation
NTE reaction:IIIa -> IV
CMT Ratio = 1:1 for products 1,2

L47 ANSWER 82 OF 82 CHEMINFORMRX COPYRIGHT 2007 FIZ CHEMIE on STN
AN 199124178 CHEMINFORMRX
TI Polycyclic Azines. Part 25. 2-Amino-3,1-benzothiazin-4-ones: Synthesis, Dimroth Rearrangement to Quinazolin-4(3H)-on-2(1H)-thiones, and MS/MS-Fragmentation.
AU LEISTNER, S.; GUETSCHOW, M.; STACH, J.
CS Sekt. Biowiss., Karl-Marx-Univ. Leipzig, Ber. Chem. Biol. Akt. Verb., O-7010 Leipzig, Germany
SO Arch. Pharm. (Weinheim, Ger.), 323(10), 857-862 (1990)
CODEN: ARPMAS ISSN: 0365-6233
LA German
AB The N-benzoylthioureas (I) are cyclized in concentrated sulfuric acid to form the benzothiazinones (II) or (III) depending on the reaction conditions. Cyclization of (I) in the presence of a base yields the 2-thioxo-4-quinazolinones (IV). (IVa) is also obtained by Dimroth rearrangement of the benzothiazinone (IIa). The mass spectrometric fragmentation patterns of (II) - (IV) are discussed.

RX(1) OF 11 A ===> B...



I II
YIELD 86.0%

RX(1) RCT I, **153740** (13277-24-2)
RGT **198** (7664-93-9), H2SO4
PRO II, **153741** (131357-73-8)
YDS 86.0 %
T 100.0 Cel
TIM 4.0 hr
KW acylation; S-acylation
NTE reaction:I -> II, example: 1

INVENTOR SEARCH


```
=> d que nos l43
L4              STR
L6       118553 SEA FILE=REGISTRY SSS FUL L4
L10       11576 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L6
L40             QUE  ABB=ON  PLU=ON  HEINELT, U?/AU
L41             QUE  ABB=ON  PLU=ON  LANG, H?/AU
L43          16 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L10 AND (L40 OR L41)


=> d his l46

     (FILE 'MEDLINE, BIOSIS, EMBASE' ENTERED AT 10:49:42 ON 17 JAN 2007)
L46           1 S L45 AND L40-L41

=> d que nos l46
L4              STR
L6       118553 SEA FILE=REGISTRY SSS FUL L4
L40             QUE  ABB=ON  PLU=ON  HEINELT, U?/AU
L41             QUE  ABB=ON  PLU=ON  LANG, H?/AU
L44          84 SEA FILE=REGISTRY ABB=ON  PLU=ON  L6 AND (MEDLINE OR EMBASE OR
                BIOSIS)/LC
L45        5270 SEA L44
L46           1 SEA L45 AND (L40 OR L41)


=> dup rem l43 l46
FILE 'HCAPLUS' ENTERED AT 11:11:57 ON 17 JAN 2007
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
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FILE 'MEDLINE' ENTERED AT 11:11:57 ON 17 JAN 2007
PROCESSING COMPLETED FOR L43
PROCESSING COMPLETED FOR L46
L48          16 DUP REM L43 L46 (1 DUPLICATE REMOVED)
                ANSWERS '1-16' FROM FILE HCAPLUS

=> file stnguide
FILE 'STNGUIDE' ENTERED AT 11:12:12 ON 17 JAN 2007
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT
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AND TECHNOLOGY CORPORATION, AND FACHINFORMATIONSZENTRUM KARLSRUHE

FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Jan 12, 2007 (20070112/UP).

=> d ibib ed ab 1-16
YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS' - CONTINUE? (Y)/N:y


L48 ANSWER 1 OF 16 HCAPLUS COPYRIGHT 2007 ACS on STN DUPLICATE 1
ACCESSION NUMBER:         1989:225220  HCAPLUS
DOCUMENT NUMBER:          110:225220
TITLE:                    Piretanide-dextran and piretanide-polyethylene glycol
                          interact with high affinity with the sodium chloride
                          potassium cotransporter in the thick ascending limb of
```

the loop of Henle
AUTHOR(S): Nitschke, R.; Schlatter, E.; Eidelman, O.; **Lang, H. J.**; Englert, H. C.; Cabantchik, Z. I.; Greger, R.
CORPORATE SOURCE: Physiol. Inst., Univ. Freiburg, Freiburg, D-7800, Fed. Rep. Ger.
SOURCE: Pfluegers Archiv (1989), 413(5), 559-61
CODEN: PFLABK; ISSN: 0031-6768
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 25 Jun 1989
AB High-mol.-weight polyethylene glycol and dextran derivs. of piretanide bound reversibly and with high affinity to the Na+ 2Cl- K+ cotransporter in isolated rabbit thick ascending limb of the loop of Henle. The compds. had only a weak diuretic effect in rat and were not metabolized in the kidney. It can be concluded that the binding site for piretanide diuretics on the Na+ 2Cl- K+ cotransporter must be exposed on the surface of the luminal cell membrane.

L48 ANSWER 2 OF 16 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:260072 HCAPLUS
DOCUMENT NUMBER: 142:316840
TITLE: Preparation of thienoimidazoles and related compounds as hydrogen ion-sodium exchanger (NHE-3) inhibitors
INVENTOR(S): **Lang, Hans-jochen**; **Heinelt, Uwe**; Wirth, Klaus; Licher, Thomas
PATENT ASSIGNEE(S): Aventis Pharma Deutschland GmbH, Germany
SOURCE: PCT Int. Appl., 52 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005026173	A1	20050324	WO 2004-EP9836	20040903
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10341240	A1	20050407	DE 2003-10341240	20030908
US 2005075385	A1	20050407	US 2004-926118	20040825
AU 2004272225	A1	20050324	AU 2004-272225	20040903
CA 2537695	A1	20050324	CA 2004-2537695	20040903
EP 1664058	A1	20060607	EP 2004-764791	20040903
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR				
CN 1845926	A	20061011	CN 2004-80025656	20040903
NO 2006001559	A	20060406	NO 2006-1559	20060406

PRIORITY APPLN. INFO.: DE 2003-10341240 A 20030908
US 2004-537738P P 20040120
WO 2004-EP9836 W 20040903

ED Entered STN: 25 Mar 2005

AB Title compds. I [R1 = (un)substitutyed Ph, 3-thienyl; R2, R3 = H, halo, Me, etc.; R4 = H, Me, Et, etc.] and their pharmaceutically acceptable salts were prepared For example, MeI mediated cyclization of thiourea II, e.g., prepared from 3,4-diaminothiophene dihydrochloride and 2,6-dichlorophenylisothiocyanate, afforded the hydrochloride salt of thienoimidazole III. In NHE-3 inhibition assays, 5-examples of compds. I exhibited IC50 values ranging from 0.15-6.51 μM, e.g., the IC50 value of thienoimidazole III was 0.22 μM. Compds. I are claimed to be useful for the treatment of breathing disorders.

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L48 ANSWER 3 OF 16 HCAPLUS COPYRIGHT 2007 ACS on STN My application

ACCESSION NUMBER: 2004:1036708 HCAPLUS
DOCUMENT NUMBER: 142:23282
TITLE: Process for synthesizing heterocyclic compounds by reaction of diamines, amino alcohols, or amino thioalcohols with isothiocyanates and cyclization of thiourea intermediates
INVENTOR(S): **Heinelt, Uwe**; **Lang, Hans-Jochen**
PATENT ASSIGNEE(S): Aventis Pharma Deutschland GmbH, Germany
SOURCE: U.S. Pat. Appl. Publ., 16 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004242560	A1	20041202	US 2004-840105	20040506
DE 10323701	A1	20041223	DE 2003-10323701	20030522
AU 2004240716	A1	20041202	AU 2004-240716	20040510
CA 2526646	A1	20041202	CA 2004-2526646	20040510
WO 2004103976	A2	20041202	WO 2004-EP4955	20040510
WO 2004103976	A3	20050210		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1631552	A2	20060308	EP 2004-731903	20040510
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, TR, BG, CZ, EE, HU, PL, SK				
BR 2004010565	A	20060620	BR 2004-10565	20040510
CN 1795178	A	20060628	CN 2004-80014178	20040510
NO 2005005991	A	20060214	NO 2005-5991	20051216

PRIORITY APPLN. INFO.: DE 2003-10323701 A 20030522
US 2003-507143P P 20030930
WO 2004-EP4955 W 20040510

OTHER SOURCE(S): MARPAT 142:23282
ED Entered STN: 03 Dec 2004
AB The invention provides the process for synthesizing heterocyclic compds. of formula (I) [X = S, O, NR5 (wherein R5 = H, C1-4 alkyl); m, o = 0, 1, 2; A = each (un)substituted Ph, naphthyl, or heteroaryl; R10-R17 = H, F, partially or fully fluorinated C1-4 alkyl; or R14 and R16 together are a bond, and R15 and R17, together with the two carbon atoms to which they are bonded, form an aromatic six-membered carbocycle, in which one or two carbon atoms may be replaced by nitrogen, or a thiophene ring, wherein the aromatic six-membered carbocycle and the thiophene ring is optionally substituted; wherein, either (i) A is an aromatic ring system, or (ii) the ring formed from R15 and R17 is an aromatic system and m is zero, or (iii) each of A and the ring formed from R15 and R17 is an aromatic ring system] and their tautomers and their salts. In the process, an isothiocyanate of A-NCS (A = same as above) is initially reacted with a primary amine of formula (II) (R = H; m, o, X, R10-R17= same as above) to give a thiourea of formula II [R = A-NH-C(S)]. Subsequently, the thiourea II [R = A-NH-C(S)] is converted to the corresponding heterocycle I using a base and a sulfonyl chloride. Thus, a solution of Ph isothiocyanate (500 mg) in absolute THF (6 mL) was added dropwise over 20 min under argon to a solution of ethylenediamine (5.56 g) in absolute THF (6 mL) and the reaction mixture was treated with H2O, acidified with 10% HCl, and extracted with EtOAc to give 50 mg 1-(2-aminoethyl)-3-phenylthiourea (III). III (50 mg) was dissolved in THF (1.5 mL) under argon, admixed with a solution of NaOH (25.6 mg) in H2O (0.6 mL), and treated dropwise with a solution of p-toluenesulfonyl chloride (53.7 mg) in THF within 5 min. and the reaction mixture was stirred for 0.5 h to give, after workup and chromatog. purification, 20 mg 2-(phenylimino)imidazolidine.

L48 ANSWER 4 OF 16 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:792335 HCAPLUS
DOCUMENT NUMBER: 141:410834
TITLE: A convenient method for the synthesis of 2-amino substituted aza-heterocycles from N,N'-disubstituted thioureas using TsCl/NaOH
AUTHOR(S): **Heinelt, Uwe**; Schultheis, Daniela; Jaeger, Siegfried; Lindenmaier, Marion; Pollex, Annett; Beckmann, Henning S. G.
CORPORATE SOURCE: Chemistry, Aventis, Frankfurt, 65926, Germany
SOURCE: Tetrahedron (2004), 60(44), 9883-9888
CODEN: TETRAB; ISSN: 0040-4020
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 141:410834
ED Entered STN: 29 Sep 2004
AB P-Toluenesulfonyl chloride (TsCl)/NaOH has been introduced as reagent combination for the synthesis of 2-aminooxazolidines or 2-aminothiazolidines from N-(2-hydroxyethyl)thioureas, but its general application in heterocycle synthesis has not been investigated. In this paper the convenient and efficient synthesis of a variety of 2-amino-substituted 1-aza-3-(aza, oxa or thia) heterocycles of different substitution and ring sizes is described. The application of polymer-supported TsCl facilitates work-up and renders the reaction

conditions very suitable for parallel or robot synthesis.
REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L48 ANSWER 5 OF 16 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:972070 HCAPLUS
DOCUMENT NUMBER: 140:27822
TITLE: Preparation of N-thiophenyl-1H-benzimidazol-2-amines and related compounds as NHE-3 sodium-proton exchanger inhibitors
INVENTOR(S): **Lang, Hans-Jochen**; **Heinelt, Uwe**; Hofmeister, Armin; Wirth, Klaus; Gekle, Michael; Bleich, Markus
PATENT ASSIGNEE(S): Aventis Pharma Deutschland G.m.b.H., Germany
SOURCE: PCT Int. Appl., 89 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003101984	A1	20031211	WO 2003-EP5465	20030526
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10224892	A1	20031218	DE 2002-10224892	20020604
CA 2488242	A1	20031211	CA 2003-2488242	20030526
AU 2003273553	A1	20031219	AU 2003-273553	20030526
EP 1513834	A1	20050316	EP 2003-740148	20030526
EP 1513834	B1	20060315		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
BR 2003011548	A	20050412	BR 2003-11548	20030526
CN 1659163	A	20050824	CN 2003-812846	20030526
JP 2005533038	T	20051104	JP 2004-509675	20030526
AT 320425	T	20060415	AT 2003-740148	20030526
PT 1513834	T	20060630	PT 2003-740148	20030526
ES 2258722	T3	20060901	ES 2003-3740148	20030526
NZ 536970	A	20060929	NZ 2003-536970	20030526
US 2004006119	A1	20040108	US 2003-448851	20030530
US 7049333	B2	20060523		
ZA 2004009095	A	20050510	ZA 2004-9095	20041110
NO 2004005504	A	20050125	NO 2004-5504	20041216
US 2006160873	A1	20060720	US 2006-385331	20060321
PRIORITY APPLN. INFO.:			DE 2002-10224892 A	20020604
			US 2002-415788P P	20021003
			WO 2003-EP5465 W	20030526
			US 2003-448851 A1	20030530

OTHER SOURCE(S): MARPAT 140:27822
ED Entered STN: 14 Dec 2003
AB Title compds. I [R1, R2 = H, halo, CN, etc.; R3 = H, CH3, halo, etc.; R4 = H, cycloalkyl, alkenyl, etc.; R5, R6 = H, or together as a bond (sic); R7, R8 = alkyl, alkenyl, alkynyl, etc.] and their pharmaceutically acceptable salts were prepared For example, N-chlorosuccinimide mediated chlorination of thiophene II, e.g., prepared from 3-amino-2-thiophenecarboxylic acid Me ester in 7-steps, afforded the hydrochloride salt of benzimidazolamine III. In NHE-3 sodium-proton exchanger inhibition assays, 12-examples of compds. I exhibited IC50 values ranging from 0.12-1.59 μM, e.g., the IC50 value of benzimidazolamine III hydrochloride was 0.14 μM. Compds. I are claimed useful for the treatment of breathing disturbances, ischemic and/or reperfusion events, etc.
REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L48 ANSWER 6 OF 16 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:511142 HCAPLUS
DOCUMENT NUMBER: 139:85344
TITLE: Preparation of 1H-imidazol-2-amines as sodium hydrogen exchanging transport protein-3 (NHE3) inhibitors
INVENTOR(S): **Heinelt, Uwe**; **Lang, Hans-Jochen**; Hofmeister, Armin; Wirth, Klaus
PATENT ASSIGNEE(S): Aventis Pharma Deutschland GmbH, Germany
SOURCE: PCT Int. Appl., 34 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003053434	A1	20030703	WO 2002-EP13921	20021209
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10163239	A1	20030710	DE 2001-10163239	20011221
CA 2470856	A1	20030703	CA 2002-2470856	20021209
AU 2002361990	A1	20030709	AU 2002-361990	20021209
EP 1461034	A1	20040929	EP 2002-796586	20021209
EP 1461034	B1	20061122		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
BR 2002015154	A	20041019	BR 2002-15154	20021209
CN 1606440	A	20050413	CN 2002-825817	20021209
JP 2005516947	T	20050609	JP 2003-554191	20021209
US 2003187045	A1	20031002	US 2002-323799	20021220
NO 2004003009	A	20040715	NO 2004-3009	20040715
US 2005004198	A1	20050106	US 2004-892994	20040716

PRIORITY APPLN. INFO.: DE 2001-10163239 A 20011221
US 2002-353518P P 20020201
WO 2002-EP13921 W 20021209
US 2002-323799 B1 20021220

OTHER SOURCE(S): MARPAT 139:85344
ED Entered STN: 04 Jul 2003
AB Title compds. I [R1, R2 = CN, alkyl, alkenyl, etc.; R3 = halo, alkyl, alkenyl, etc.; R4, R5, R6 = H, halo, alkyl, etc.; R7 = H, halo, alkyl, etc.] and their pharmaceutically acceptable salts were prepared For example, condensation of trans-2,5-dimethylhexan-3,4-diamine and 2,6-dichlorophenylisothiocyanate, followed by DCC mediated cyclization, afforded claimed 1H-imidazol-2-amine II hydrochloride in a one-flask reaction scheme. In sodium hydrogen exchanging transport protein-3 inhibition assays, 3-examples of compds. I exhibited IC50 values ranging from 1.1-19 μM, e.g., the IC50 value of 1H-imidazol-2-amine II was 1.1 μM. Compds. I are claimed useful for the treatment of ischemia and lipid metabolic diseases.
REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L48 ANSWER 7 OF 16 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:449660 HCAPLUS
DOCUMENT NUMBER: 137:33293
TITLE: Preparation of 2-anilinobenzimidazoles as inhibitors of Na+/H+ exchanger (NHE3)
INVENTOR(S): Hofmeister, Armin; **Heinelt, Uwe**; **Lang, Hans-Jochen**; Bleich, Markus; Wirth, Klaus; Gekle, Michael
PATENT ASSIGNEE(S): Aventis Pharma Deutschland G.m.b.H., Germany
SOURCE: PCT Int. Appl., 59 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002046169	A1	20020613	WO 2001-EP13586	20011122
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10060292	A1	20020620	DE 2000-10060292	20001205
CA 2430412	A1	20020613	CA 2001-2430412	20011122
AU 200219135	A	20020618	AU 2002-19135	20011122
EE 200300193	A	20030815	EE 2003-193	20011122
EP 1341770	A1	20030910	EP 2001-999563	20011122
EP 1341770	B1	20060614		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
BR 2001015936	A	20031028	BR 2001-15936	20011122

JP 2004517086	T	20040610	JP 2002-547908		20011122
HU 200400967	A2	20040830	HU 2004-967		20011122
NZ 526250	A	20041126	NZ 2001-526250		20011122
RU 2272031	C2	20060320	RU 2003-120069		20011122
AT 329906	T	20060715	AT 2001-999563		20011122
US 2002132842	A1	20020919	US 2001-28		20011204
US 6686384	B2	20040203			
US 2003191170	A1	20031009	US 2003-441124		20030520
US 6958357	B2	20051025			
ZA 2003003932	A	20040415	ZA 2003-3932		20030521
NO 2003002490	A	20030722	NO 2003-2490		20030602
IN 2003CN00855	A	20050422	IN 2003-CN855		20030602
PRIORITY APPLN. INFO.:			DE 2000-10060292	A	20001205
			WO 2001-EP13586	W	20011122
			US 2001-28	A3	20011204

OTHER SOURCE(S): MARPAT 137:33293
ED Entered STN: 14 Jun 2002
AB Title compds. [I; R1-R5 = F, Cl, Br, I, cyano, OH, (fluorinated) alkyl, cycloalkyl, oxoalkyl, etc.; R6-R9 = H, F, Cl, Br, I, cyano, OH, (fluorinated) alkyl, cycloalkyl, alkoxy, etc.] and salts thereof were prepared Thus, 1-(2-amino-6-hydroxyphenyl)-3-(2,6-dichlorophenyl)thiourea (preparation given) in EtOH was refluxed with MeI for 8 h to give 47% 2-[(2,6-dichlorophenyl)amino]-4-hydroxy-1H-benzimidazole hydrochloride. The latter inhibited NHE3 with IC50 = 0.47 μM.
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L48 ANSWER 8 OF 16 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2000:607388 HCAPLUS
DOCUMENT NUMBER: 133:207886
TITLE: Preparation of alkyliminoindanothiazoles and analogs as anorectic agents
INVENTOR(S): Jaehne, Gerhard; Geisen, Karl; **Lang, Hans-jochen**; Bickel, Martin
PATENT ASSIGNEE(S): Aventis Pharma Deutschland GmbH, Germany
SOURCE: Ger. Offen., 16 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19908536	A1	20000831	DE 1999-19908536	19990226
CA 2364902	A1	20000908	CA 2000-2364902	20000205
WO 2000051996	A1	20000908	WO 2000-EP926	20000205
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1157013	A1	20011128	EP 2000-906286	20000205

EP 1157013	B1	20041208			
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO					
BR 2000008559	A	20011218	BR 2000-8559		20000205
JP 2002538149	T	20021112	JP 2000-602223		20000205
AU 765300	B2	20030911	AU 2000-28022		20000205
AU 2000028022	A	20000921			
AT 284394	T	20041215	AT 2000-906286		20000205
PT 1157013	T	20050228	PT 2000-906286		20000205
ES 2232425	T3	20050601	ES 2000-906286		20000205
US 6207689	B1	20010327	US 2000-500464		20000209
US 6288093	B1	20010911	US 2000-697151		20001027
US 2001011096	A1	20010802	US 2001-774053		20010131
US 6288094	B2	20010911			
ZA 2001006441	A	20020213	ZA 2001-6441		20010806
HK 1042299	A1	20041210	HK 2002-104046		20020531
PRIORITY APPLN. INFO.:			DE 1999-19908536	A	19990226
			WO 2000-EP926	W	20000205
			US 2000-500464	A3	20000209

OTHER SOURCE(S): MARPAT 133:207886
ED Entered STN: 31 Aug 2000
AB Title compds. [I; R1 = 1 or 2 of halo, alkyl, alkoxy, acyl, etc.; R2,R3 = (carboxy)alkyl, CH2Ph, pyridinyl(alkyl), etc.; R2R3 = (CH2)2-4 or CH2CMe2; Z = O, S, CH2, CHPh; Z1 = bond, CH2, CH2CH2] were prepared Thus, 2-bromo-5-chloro-1-indanone was cyclocondensed with (MeHN)2CS and the product treated with HOAc to give title compound II.HBr. Data for biol. activity of I were given.

L48 ANSWER 9 OF 16 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1991:488488 HCAPLUS
DOCUMENT NUMBER: 115:88488
TITLE: Macromolecular conjugates of transport inhibitors: new tools for probing topography of anion transport proteins
AUTHOR(S): Eidelman, Ofer; Yanai, Peter; Englert, Heimer C.; **Lang, Hans G.**; Greger, Rainer; Cabantchik, Z. Ioav
CORPORATE SOURCE: Inst. Life Sci., Hebrew Univ., Jerusalem, 91904, Israel
SOURCE: American Journal of Physiology (1991), 260(5, Pt. 1), C1094-C1103
CODEN: AJPHAP; ISSN: 0002-9513
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 06 Sep 1991
AB Macromol.-conjugated, water-soluble, membrane-impermeant compds. were designed and assessed as topol. probes for chloride-transporting agencies. The novel compds. were derivs. of either disulfonic stilbene (DS) and benzylaminoethylsulfonate (BS), classical inhibitors of erythrocyte chloride-bicarbonate exchange, or of phenylanthranilates (PA), high-affinity blockers of epithelial chloride channels. Covalent reactive derivs. of various DS, BS, and PA were synthesized and coupled either directly to polyethylene glycol or via spacer arms of different lengths to dextrans. The macromol. conjugates were demonstrably inhibitory to red blood cell anion exchange when the ligands were appropriately coupled: inhibitory efficacy strongly depended on the chemical structure of the coupled ligand and the spacer length between the inhibitory moiety and the

macromol. Mechanistic studies indicated that impermeant DS and PA derivs. acted exofacially on sites, which although different in their affinity for chloride, shared geog. proximity. BS derivs. were unique in that they affected transport from either surface. The results suggest asym. aqueous access routes leading to the functional domain of the anion transporter from either membrane surface.

L48 ANSWER 10 OF 16 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1991:651434 HCAPLUS
DOCUMENT NUMBER: 115:251434
TITLE: Different types of blockers of the intermediate-conductance outwardly rectifying chloride channel in epithelia
AUTHOR(S): Tilmann, M.; Kunzelmann, K.; Froebe, U.; Cabantchik, I.; **Lang, H. J.**; Englert, H. C.; Greger, R.
CORPORATE SOURCE: Physiol. Inst., Albert-Ludwigs-Univ., Freiburg, W-7800, Germany
SOURCE: Pfluegers Archiv (1991), 418(5), 556-63
CODEN: PFLABK; ISSN: 0031-6768
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 14 Dec 1991
AB Epithelial Cl- channels can be blocked by various inhibitors that show considerable differences in their mol. structure. In the present patch-clamp study, different blockers of 1 type of epithelical Cl- channel were compared with respect to their inhibitory potency. The blockers were applied to excised inside-out-or outside-out-oriented membrane patches of cultured HT29 colon carcinoma and respiratory epithelial cells (REC) containing the outwardly rectifying intermediate-conductance (ICOR) CL-channel. Four types of inhibitory compds. were tested: stilbene disulfonate derivs., indanyloxyacetic acid, amidine, and aryl-aminobenzoates. The concns. for half-maximal inhibition (IC50) for the different channel blockers were (μmol/L): 4-acetamido-4-isothiocyanatostilbene-2,2'-disulfonic acid 100; 4,4'-diisothiocyanatostilbene-2,2'-disulfonic acid 80; indanyloxyacetic acid 9; 4,4'-dinitrostilbene-2,2'-disulfonic acid 8; amidine 8, and 5-nitro-2-(3-phenylpropylamino)benzoate (NPPB) 0.9. All compound, when applied to the cytosolic side of the channel, induced a flicker-type block of the ICOR Cl- channel at lower concns. and a complete channel inhibition at higher concns. The inhibitory potency of NPPB was much higher when it was added to the external surface of the channel in outside-out-oriented membrane patches. At 1 μmol/L the inhibition was complete. All blocker effects were fully reversible. The probe with the highest affinity (NPPB) and a closely related compound 5-nitro-2-(3-phenylethylamino)-benzoate (NPEB) were used to construct macromol. probes by linking these blockers to aminopolyethylene glycol (PEG) or aminoethyl-O-dextran (5 kilodaltons). These macromol. NPPB and NPEB derivs. inhibited the ICOR Cl- channels only from the outside but had no effect on the cytosolic side. In the case of PEG-NPPB, and IC50 of 30 nmol/L was determined in outside-out patches. The data indicate that the interaction site for arylaminobenzoates is accessible from the outer aspects of the Cl- channel facing the extracellular medium. The macromol. probes of arylaminobenzoates have affinities to the Cl- channel very similar to those of resp. parent compound

L48 ANSWER 11 OF 16 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1983:72082 HCAPLUS

DOCUMENT NUMBER: 98:72082
TITLE: Thiazoline derivatives, their use and their pharmaceutical preparations
INVENTOR(S): **Lang, Hans Jochen**; Seuring, Bernhard; Granzer, Ernold
PATENT ASSIGNEE(S): Hoechst A.-G. , Fed. Rep. Ger.
SOURCE: Eur. Pat. Appl., 45 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 55458	A2	19820707	EP 1981-110677	19811222
EP 55458	A3	19821020		
EP 55458	B1	19850213		
R: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
DE 3049460	A1	19820729	DE 1980-3049460	19801230
AT 11778	T	19850215	AT 1981-110677	19811222
ES 508293	A1	19830401	ES 1981-508293	19811223
FI 8104175	A	19820701	FI 1981-4175	19811228
JP 57134472	A	19820819	JP 1981-210093	19811228
US 4421757	A	19831220	US 1981-335149	19811228
IL 64653	A	19850929	IL 1981-64653	19811228
DK 8105811	A	19820701	DK 1981-5811	19811229
NO 8104468	A	19820701	NO 1981-4468	19811229
NO 154551	B	19860707		
ZA 8108968	A	19821124	ZA 1981-8968	19811229
HU 26885	A2	19830928	HU 1981-3984	19811229
HU 184976	B	19841128		
CA 1173836	A1	19840904	CA 1981-393285	19811229
AU 8179068	A	19820708	AU 1981-79068	19811230
AU 542670	B2	19850228		
ES 518272	A1	19830901	ES 1982-518272	19821216
ES 518273	A1	19830901	ES 1982-518273	19821216
ES 518274	A1	19830901	ES 1982-518274	19821216
ES 518271	A1	19840216	ES 1982-518271	19821216
PRIORITY APPLN. INFO.:			DE 1980-3049460 A	19801230
			EP 1981-110677 A	19811222

OTHER SOURCE(S): MARPAT 98:72082
ED Entered STN: 12 May 1984
AB Thiazolines I (R = H, halo, Me; R1 = C1-3 alkyl; R2, R3 = H, halo, C1-4 alkyl or alkoxy; R4, R5 = H, C1-4 alkyl; N R4R5 = saturated ring with ≤6 members; R6 = H, C1-4 acyl), useful in lowering cholesterol in serum very low and low d. lipoproteins with little or no effect on high d. lipoproteins and thus useful in treating atherosclerosis, were prepared by 5 methods. MeNHCSNHC6H4OH-4 and COCl2 in THF gave ClC(NHMe):NC6H4OH-4.HCl which cyclized with 4,3-Cl(Me2NSO)2C6H3COCH2SH in Me2CHOH by treating the mixture successively with NEt3 in a little Me2CHOH, CHCl3 with overnight stirring, and AcOH to give II. Rats were treated with 10 mg/kg II per day orally for 7 days; this treatment lowered cholesterol in serum 9%, in the very low d. serum lipoprotein 54%, in low d. lipoprotein 17%, and in high d. serum lipoprotein 4%.

L48 ANSWER 12 OF 16 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1981:425048 HCAPLUS
DOCUMENT NUMBER: 95:25048
TITLE: Thiazolidine derivatives or their pharmacologically compatible acid addition salts
INVENTOR(S): **Lang, Hans Jochen**; Seuring, Bernhard; Granzer, Ernold
PATENT ASSIGNEE(S): Hoechst A.-G., Fed. Rep. Ger.
SOURCE: Ger. Offen., 110 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2926771	A1	19810115	DE 1979-2926771	19790703
ES 492847	A1	19810216	ES 1980-492847	19800627
ES 492871	A1	19810216	ES 1980-492871	19800627
ES 492872	A1	19810216	ES 1980-492872	19800627
ES 492873	A1	19810216	ES 1980-492873	19800627
ES 492874	A1	19810216	ES 1980-492874	19800627
EP 23964	A1	19810218	EP 1980-103688	19800628
EP 23964	B1	19830216		
R: AT, BE, CH, DE, FR, GB, IT, NL, SE				
AT 2524	T	19830315	AT 1980-103688	19800628
FI 8002094	A	19810104	FI 1980-2094	19800701
US 4346088	A	19820824	US 1980-165218	19800701
DK 8002865	A	19810104	DK 1980-2865	19800702
NO 8001995	A	19810105	NO 1980-1995	19800702
NO 154132	B	19860414		
AU 8060037	A	19810115	AU 1980-60037	19800702
AU 533589	B2	19831201		
ZA 8003979	A	19810624	ZA 1980-3979	19800702
HU 24426	A2	19830228	HU 1980-1643	19800702
HU 182164	B	19831228		
CA 1156240	A1	19831101	CA 1980-355222	19800702
IL 60468	A	19841130	IL 1980-60468	19800702
IL 70114	A	19841130	IL 1980-70114	19800702
JP 56010180	A	19810202	JP 1980-91605	19800703
NO 8404120	A	19810105	NO 1984-4120	19841016

PRIORITY APPLN. INFO.: DE 1979-2926771 A 19790703
EP 1980-103688 A 19800628
IL 1980-60468 A3 19800702
OTHER SOURCE(S): MARPAT 95:25048
ED Entered STN: 12 May 1984
AB Anticholesteremic (no data) thiazolines I (R = H, halogen, alkyl; R1 = alkyl, cycloalkyl, alkenyl; R2-R4 = H, halogen, alkyl, alkoxy, OCH2O, OCH2CH2O, NMe2, NEt2, CF3; R5, R6 = H, alkyl; R7 = H, alkyl, cycloalkyl, allyl, CH2CH2Ph, optionally substituted CH2Ph; NR6R7 = heterocyclic) were prepared Thus, cyclocondensation of 4,3-Cl(Me2NSO2)C6H3COCH2Br with PhNHCSNHMe gave a thiazolidinol whose dehydration with acid gave I (R = Cl, R1 = R6 = R7 = Me, R2-R5 = H).

L48 ANSWER 13 OF 16 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1977:584487 HCAPLUS
DOCUMENT NUMBER: 87:184487

TITLE: Thiazolidine derivatives
INVENTOR(S): **Lang, Hans Jochen**; Muschaweck, Roman
PATENT ASSIGNEE(S): Hoechst A.-G., Fed. Rep. Ger.
SOURCE: Ger. Offen., 68 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2601598	A1	19770721	DE 1976-2601598	19760117
NL 7700259	A	19770719	NL 1977-259	19770112
DK 7700148	A	19770718	DK 1977-148	19770114
FI 7700109	A	19770718	FI 1977-109	19770114
NO 7700123	A	19770719	NO 1977-123	19770114
AU 7721342	A	19780720	AU 1977-21342	19770114
US 4118501	A	19781003	US 1977-759546	19770114
AT 7700189	A	19790615	AT 1977-189	19770114
AT 354440	B	19790110		
IL 51263	A	19791031	IL 1977-51263	19770114
HU 18396	A2	19800628	HU 1977-HO1952	19770114
HU 176109	B	19801228		
CA 1089472	A1	19801111	CA 1977-269714	19770114
BE 850451	A1	19770718	BE 1977-174132	19770117
JP 52093742	A	19770806	JP 1977-3017	19770117
FR 2338269	A1	19770812	FR 1977-1172	19770117
FR 2338269	B1	19810109		
GB 1570912	A	19800709	GB 1977-1749	19770117
US 4156735	A	19790529	US 1978-885643	19780313
AT 7903759	A	19800815	AT 1979-3759	19790522
AT 361473	B	19810310		
AT 7903760	A	19800815	AT 1979-3760	19790522
AT 361474	B	19810310		

PRIORITY APPLN. INFO.:			
DE 1976-2601598	A	19760117	
AT 1977-189	A	19770114	
US 1977-759546	A3	19770114	

ED Entered STN: 12 May 1984
AB Diuretic (no data) iminothiazolidinols I (R = alkyl, NR1R2 and NR3R4 are amino, R5 = Cl, Br) (>100 compds.) were prepared by cyclocondensation of 3-sulfamoylacetophenones with thioureas. Thus, 4,3-Cl(H2NSO2)C6H3COCH2Br was treated with EtNHCSNMe2 to give I (R = Et, R1 = R2 = Me, R3 = R4 = H, R5 = Cl).

L48 ANSWER 14 OF 16 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1977:453265 HCAPLUS
DOCUMENT NUMBER: 87:53265
TITLE: Thiazolidine derivatives
INVENTOR(S): **Lang, Hans Jochen**; Muschaweck, Roman
PATENT ASSIGNEE(S): Hoechst A.-G., Fed. Rep. Ger.
SOURCE: Ger. Offen., 54 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2546165	A1	19770428	DE 1975-2546165	19751015
GB 1563323	A	19800326	GB 1976-41722	19761007
NL 7611159	A	19770419	NL 1976-11159	19761008
FI 7602920	A	19770416	FI 1976-2920	19761013
DK 7604640	A	19770416	DK 1976-4640	19761014
NO 7603502	A	19770418	NO 1976-3502	19761014
AU 7618691	A	19780420	AU 1976-18691	19761014
AT 7607655	A	19800115	AT 1976-7655	19761014
AT 358030	B	19800811		
HU 174587	B	19800228	HU 1976-HO1931	19761014
CA 1083581	A1	19800812	CA 1976-263345	19761014
BE 847352	A1	19770415	BE 1976-171562	19761015
SE 7611504	A	19770416	SE 1976-11504	19761015
JP 52051364	A	19770425	JP 1976-124381	19761015
FR 2327778	A1	19770513	FR 1976-31040	19761015
FR 2327778	B1	19781215		
AT 7902625	A	19791215	AT 1979-2625	19790409
AT 357525	B	19800710		

PRIORITY APPLN. INFO.: DE 1975-2546165 A 19751015
AT 1976-7655 A 19761014

OTHER SOURCE(S): MARPAT 87:53265
ED Entered STN: 12 May 1984
AB Thiazolidines I [R = Me, Et, MeO, EtO, MeNH, BuNH, Pr2N, cyclopentylamino, cyclohexylamino, piperidino; R1 = Br, Cl; R2 = Me, Et, Pr, H2C:CHCH2; R3 = Me, Et, iso-Pr, iso-Bu, H2C:CHCH2, Pr, PhCH2, PhCH2CH2, MeCH(OMe)CH2, cyclohexyl; R2R3 = CH2CH2, CH2CH2CH2], useful as diuretics (no data), are prepared by cyclocondensation of the appropriate 2,4'-dihaloacetophenone with a suitable 2-thiourea derivative Thus, reaction of Ac2O with 3,4-(H2NSO2)ClC6H3COMe gives 3,4-(AcHNSO2)ClC6H3COMe which is brominated to give 3,4-(AcNHSO2)ClC6H3COCH2Br (II). Reaction of II with MeNHCSNHMe in EtOH at 45-50° and overnight standing at 20° gives I (R = R2 = R3 = Me, R1 = Cl).

L48 ANSWER 15 OF 16 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1977:423260 HCAPLUS
DOCUMENT NUMBER: 87:23260
TITLE: Thiazolidine derivatives
INVENTOR(S): **Lang, Hans Jochen**; Muschaweck, Roman
PATENT ASSIGNEE(S): Hoechst A.-G., Fed. Rep. Ger.
SOURCE: Ger. Offen., 58 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2533821	A1	19770217	DE 1975-2533821	19750729
JP 60000353	B	19850107	JP 1976-527	19760101
NL 7608206	A	19770201	NL 1976-8206	19760723
FI 7602140	A	19770130	FI 1976-2140	19760727
IL 50146	A	19791230	IL 1976-50146	19760727
DK 7603404	A	19770130	DK 1976-3404	19760728

NO 7602625	A	19770201	NO 1976-2625		19760728
AU 498052	B2	19790201	AU 1976-16324		19760728
AT 353267	B	19791112	AT 1976-5555		19760728
AT 7605555	A	19790415			
CA 1077492	A1	19800513	CA 1976-257944		19760728
SE 7608545	A	19770130	SE 1976-8545		19760729
BE 844666	A1	19770131	BE 1976-169365		19760729
JP 52017468	A	19770209	JP 1976-91186		19760729
FR 2319345	A1	19770225	FR 1976-23219		19760729
FR 2319345	B1	19781117			
AT 7901827	A	19811215	AT 1979-1827		19790312
AT 7901828	A	19811215	AT 1979-1828		19790312
AT 7901829	A	19811215	AT 1979-1829		19790312
PRIORITY APPLN. INFO.:			DE 1975-2533821		19750729
			AT 1976-5555	A	19760728

ED Entered STN: 12 May 1984

AB Phenylthiazolidinols [I; R = Me, Et, Me2CH, Me2CHCH2, cyclohexyl, H2C:CHCH2, cyclopropyl, Bu, PhCH2, PhCH2CH2, MeCH(OMe)CH2; R1 = Me, Et, Me2CH, cyclohexyl, H2C:CHCH2, cyclopropyl, Bu; R2 = H, Me, Pr; R3 = Me, Pr, PhCH2CH2, PhCH2, sec-Bu; R4 = Cl, Me; R5 = Br, Cl, Me; R6 = H, Cl], useful as diuretics (no data), are prepared by cyclocondensation of 2-haloacetophenones with thiourea derivs. 3,4,5-Cl2(H2NSO2)C6H2CO2H is converted to the acid chloride which reacts with CH2N2 to give 3,4,5-Cl2(H2NSO2)C6H2COCHN2 which is chlorinated to give 3,4,5-Cl2(H2NSO2)C6H2COCH2Cl (II). Reaction of II with EtNHCSNHEt in MeOH 15 min at 40° gives I (R = R1 = Et, R2 = R3 = R6 = H, R4 = R5 = Cl).

L48 ANSWER 16 OF 16 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1976:463054 HCAPLUS
DOCUMENT NUMBER: 85:63054
TITLE: Thiazolidine derivatives
INVENTOR(S): **Lang, Hans J.**; Muschaweck, Roman
PATENT ASSIGNEE(S): Hoechst A.-G., Fed. Rep. Ger.
SOURCE: Ger. Offen., 149 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2436263	A1	19760212	DE 1974-2436263	19740727
DE 2436263	C2	19830217		
ES 439593	A1	19770616	ES 1975-439593	19750721
IL 47779	A	19790131	IL 1975-47779	19750723
FI 7502131	A	19760128	FI 1975-2131	19750724
FI 61487	B	19820430		
FI 61487	C	19820810		
NL 7508848	A	19760129	NL 1975-8848	19750724
NL 181711	B	19870518		
NL 181711	C	19871016		
ZA 7504772	A	19760630	ZA 1975-4772	19750724
HU 172659	B	19781128	HU 1975-HO1821	19750724
CH 617431	A5	19800530	CH 1975-9689	19750724
DK 7503404	A	19760128	DK 1975-3404	19750725

DK 145626	B	19830103			
DK 145626	C	19830801			
NO 7502636	A	19760128	NO 1975-2636		19750725
NO 144528	B	19810609			
NO 144528	C	19810923			
SE 7508476	A	19760128	SE 1975-8476		19750725
SE 431207	B	19840123			
SE 431207	C	19840503			
DD 121112	A5	19760712	DD 1975-187482		19750725
AU 7583391	A	19770127	AU 1975-83391		19750725
AU 501320	B2	19790614			
AT 7505770	A	19771115	AT 1975-5770		19750725
CA 1054596	A1	19790515	CA 1975-232295		19750725
JP 51054555	A	19760513	JP 1975-90729		19750726
JP 60006945	B	19850221			
BE 831794	A1	19760128	BE 1975-158662		19750728
FR 2282882	A1	19760326	FR 1975-23498		19750728
FR 2282882	B1	19790810			
US 4125614	A	19781114	US 1977-788905		19770419
AT 7707814	A	19800615	AT 1977-7814		19771102
AT 360520	B	19810112			
AT 7707816	A	19800615	AT 1977-7816		19771102
AT 360521	B	19810112			
AT 7707817	A	19800615	AT 1977-7817		19771102
AT 360522	B	19810112			
AT 7707815	A	19800715	AT 1977-7815		19771102
AT 360985	B	19810210			
CH 623316	A5	19810529	CH 1979-10799		19791205
CH 624677	A5	19810814	CH 1979-10797		19791205
CH 624678	A5	19810814	CH 1979-10798		19791205
PRIORITY APPLN. INFO.:			DE 1974-2436263	A	19740727
			CH 1975-9689	A	19750724
			AT 1975-5770	A	19750725
			US 1975-599103	A3	19750725

OTHER SOURCE(S): MARPAT 85:63054
ED Entered STN: 12 May 1984
AB Diuretic and saliuretic (no data) iminothiazolidinols I(R = Cl, Br, Me, CHMe2, H, OMe; R1 R2 R4 = C1-6 alkyl, C3-8 cycloalkyl, substituted alkyl, NMe2; R3 = H, Et; NR4R5 = heterocyclic; R5 = H, Me, Et, Pr)(133 compds) were prepared by condensing 4,3-R(R4R5NSO2)C6H3COCH2R6 (R6 = Cl, Br) with R1NHCSNHR2.

=> file stnguide
FILE 'STNGUIDE' ENTERED AT 11:13:55 ON 17 JAN 2007
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT

FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Jan 12, 2007 (20070112/UP).

```
=> d his ful

     (FILE 'HOME' ENTERED AT 09:20:57 ON 17 JAN 2007)

     FILE 'STNGUIDE' ENTERED AT 09:21:11 ON 17 JAN 2007

     FILE 'ZCAPLUS' ENTERED AT 09:21:39 ON 17 JAN 2007
               E US2004-840105/APPS

     FILE 'HCAPLUS' ENTERED AT 09:22:31 ON 17 JAN 2007
L1             1 SEA ABB=ON  PLU=ON  US2004-840105/APPS
               SAVE TEMP L1 LOE105HCAAPP/A

     FILE 'STNGUIDE' ENTERED AT 09:22:48 ON 17 JAN 2007
               D QUE

     FILE 'HCAPLUS' ENTERED AT 09:23:26 ON 17 JAN 2007
               D IBIB ED AB IND

     FILE 'STNGUIDE' ENTERED AT 09:23:27 ON 17 JAN 2007

     FILE 'REGISTRY' ENTERED AT 09:23:56 ON 17 JAN 2007

     FILE 'HCAPLUS' ENTERED AT 09:23:59 ON 17 JAN 2007
L2             TRA PLU=ON  L1 1- RN :       72 TERMS

     FILE 'REGISTRY' ENTERED AT 09:24:01 ON 17 JAN 2007
L3            72 SEA ABB=ON  PLU=ON  L2
               SAVE TEMP LOE105REGAPP/A L3

     FILE 'STNGUIDE' ENTERED AT 09:27:09 ON 17 JAN 2007

     FILE 'REGISTRY' ENTERED AT 09:28:04 ON 17 JAN 2007
L4             STRUCTURE UPLOADED
               D QUE STAT
L5            50 SEA SSS SAM L4
               D QUE STAT

     FILE 'STNGUIDE' ENTERED AT 09:31:17 ON 17 JAN 2007

     FILE 'REGISTRY' ENTERED AT 09:33:06 ON 17 JAN 2007
L6        118553 SEA SSS FUL L4
               SAVE TEMP L6 LOE105PSETR/A

     FILE 'ZCAPLUS' ENTERED AT 09:34:36 ON 17 JAN 2007
L7             QUE ABB=ON  PLU=ON  ?CYCLIZ? OR ?CYCLIS? OR (RING (2A)(CLOS?
               OR FORM OR FORMING OR FORMS OR FORMATION))
L8             QUE ABB=ON  PLU=ON  ?CYCLODESUL? OR (CYCLO(W)DESUL?)
L9             QUE ABB=ON  PLU=ON  CYCLO (W) DE(W) (SULF? OR SULPH?)

     FILE 'HCAPLUS' ENTERED AT 09:38:07 ON 17 JAN 2007
L10        11576 SEA ABB=ON  PLU=ON  L6

     FILE 'STNGUIDE' ENTERED AT 09:38:59 ON 17 JAN 2007

     FILE 'HCAPLUS' ENTERED AT 09:39:52 ON 17 JAN 2007
L11         2989 SEA ABB=ON  PLU=ON  L6 (L) RACT+NT/RL
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L12          652 SEA ABB=ON  PLU=ON  L10 (L) (L7 OR L8 OR L9)
L13          591 SEA ABB=ON  PLU=ON  L11 AND L12

     FILE 'STNGUIDE' ENTERED AT 09:41:37 ON 17 JAN 2007

     FILE 'HCAPLUS' ENTERED AT 09:42:02 ON 17 JAN 2007
L14            0 SEA ABB=ON  PLU=ON  L1 NOT L13

     FILE 'STNGUIDE' ENTERED AT 09:42:35 ON 17 JAN 2007

     FILE 'ZCAPLUS' ENTERED AT 09:43:53 ON 17 JAN 2007
L15              QUE ABB=ON  PLU=ON  AY<2004 OR PY<2004 OR PRY<2004 OR MY<2004
                 OR REVIEW/DT

     FILE 'HCAPLUS' ENTERED AT 09:44:52 ON 17 JAN 2007
L16          549 SEA ABB=ON  PLU=ON  L13 AND L15

     FILE 'STNGUIDE' ENTERED AT 09:45:12 ON 17 JAN 2007

     FILE 'STNGUIDE' ENTERED AT 09:47:56 ON 17 JAN 2007

     FILE 'REGISTRY' ENTERED AT 09:53:41 ON 17 JAN 2007
L17              STRUCTURE UPLOADED
                 D QUE STAT
L18           50 SEA SSS SAM L17

     FILE 'STNGUIDE' ENTERED AT 09:54:36 ON 17 JAN 2007

     FILE 'REGISTRY' ENTERED AT 09:58:01 ON 17 JAN 2007
L19              STRUCTURE UPLOADED
                 D QUE STAT
L20           50 SEA SSS SAM L19

     FILE 'STNGUIDE' ENTERED AT 09:58:52 ON 17 JAN 2007

     FILE 'REGISTRY' ENTERED AT 09:59:34 ON 17 JAN 2007
L21            5 SEA ABB=ON  PLU=ON  L6 AND L3
                 D SCAN
                 D QUE L6
L22       117457 SEA ABB=ON  PLU=ON  L6 NOT P/ELS
L23       116772 SEA ABB=ON  PLU=ON  L22 NOT M/ELS

     FILE 'HCAPLUS' ENTERED AT 10:02:13 ON 17 JAN 2007
L24           29 SEA ABB=ON  PLU=ON  L21

     FILE 'STNGUIDE' ENTERED AT 10:02:49 ON 17 JAN 2007

     FILE 'HCAPLUS' ENTERED AT 10:03:23 ON 17 JAN 2007
L25            3 SEA ABB=ON  PLU=ON  L24 AND L13
L26        11035 SEA ABB=ON  PLU=ON  L23
L27          588 SEA ABB=ON  PLU=ON  L13 AND L26

     FILE 'STNGUIDE' ENTERED AT 10:04:34 ON 17 JAN 2007

     FILE 'REGISTRY' ENTERED AT 10:05:23 ON 17 JAN 2007
L28         5457 SEA ABB=ON  PLU=ON  L6 AND CASREACT/LC
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     FILE 'STNGUIDE' ENTERED AT 10:05:55 ON 17 JAN 2007

     FILE 'CASREACT' ENTERED AT 10:08:32 ON 17 JAN 2007
L29             STRUCTURE UPLOADED
                D QUE STAT
L30           50 SEA SSS SAM L29 (   494 REACTIONS)
                D QUE STAT

     FILE 'STNGUIDE' ENTERED AT 10:11:43 ON 17 JAN 2007

     FILE 'CASREACT' ENTERED AT 10:18:46 ON 17 JAN 2007
L31             STRUCTURE UPLOADED
                D QUE STAT
L32           19 SEA SSS SAM L31 (   150 REACTIONS)
                D QUE STAT
                D QUE
L33          366 SEA SSS FUL L31 (  2195 REACTIONS)
                SAVE TEMP L33 LOE105CRXP/A

     FILE 'STNGUIDE' ENTERED AT 10:21:27 ON 17 JAN 2007
                D QUE L7

     FILE 'STNGUIDE' ENTERED AT 10:29:28 ON 17 JAN 2007

     FILE 'CASREACT' ENTERED AT 10:32:44 ON 17 JAN 2007
L34             STRUCTURE UPLOADED
                D QUE STAT
L35           1 SEA SUB=L33 SSS SAM L34 (     1 REACTIONS)
                D QUE STAT
L36          61 SEA SUB=L33 SSS FUL L34 (   273 REACTIONS)
                SAVE TEMP L36 LOE105CRXREF/A

     FILE 'STNGUIDE' ENTERED AT 10:36:00 ON 17 JAN 2007

     FILE 'HCAPLUS' ENTERED AT 10:36:37 ON 17 JAN 2007
                D SCAN TI HIT L25
L37           2 SEA ABB=ON  PLU=ON  L25 NOT L1
                D SCAN TI HIT

     FILE 'STNGUIDE' ENTERED AT 10:37:11 ON 17 JAN 2007
                D COST

     FILE 'CHEMINFORMRX' ENTERED AT 10:38:59 ON 17 JAN 2007
L38           0 SEA SSS SAM L34 (     0 REACTIONS)

     FILE 'STNGUIDE' ENTERED AT 10:39:41 ON 17 JAN 2007

     FILE 'CHEMINFORMRX' ENTERED AT 10:42:24 ON 17 JAN 2007
                D QUE
L39          18 SEA SSS FUL L34 (    58 REACTIONS)
                SAVE TEMP L39 LOE105CHMP/A

     FILE 'STNGUIDE' ENTERED AT 10:43:14 ON 17 JAN 2007

     FILE 'ZCAPLUS' ENTERED AT 10:44:45 ON 17 JAN 2007
L40             QUE ABB=ON  PLU=ON  HEINELT, U?/AU
L41             QUE ABB=ON  PLU=ON  LANG, H?/AU
```

```
L42             QUE ABB=ON  PLU=ON  (AVENTIS OR SANOFI)/PA,SO,CS

     FILE 'STNGUIDE' ENTERED AT 10:47:47 ON 17 JAN 2007

     FILE 'HCAPLUS' ENTERED AT 10:48:13 ON 17 JAN 2007
L43           16 SEA ABB=ON  PLU=ON  L10 AND (L40 OR L41)

     FILE 'REGISTRY' ENTERED AT 10:48:42 ON 17 JAN 2007
L44           84 SEA ABB=ON  PLU=ON  L6 AND (MEDLINE OR EMBASE OR BIOSIS)/LC

     FILE 'MEDLINE, BIOSIS, EMBASE' ENTERED AT 10:49:42 ON 17 JAN 2007
L45         5270 SEA ABB=ON  PLU=ON  L44
L46            1 SEA ABB=ON  PLU=ON  L45 AND (L40 OR L41)
                 D SCAN
                 D TRI

     FILE 'STNGUIDE' ENTERED AT 10:50:29 ON 17 JAN 2007
                 D QUE STAT L6
                 D QUE STAT L25
                 D QUE STAT L33
                 D QUE STAT L36
                 D QUE STAT L39

     FILE 'HCAPLUS, CASREACT, CHEMINFORMRX' ENTERED AT 11:01:02 ON 17 JAN 2007
L47           82 DUP REM L25 L36 L39 (0 DUPLICATES REMOVED)
                      ANSWERS '1-3' FROM FILE HCAPLUS
                      ANSWERS '4-64' FROM FILE CASREACT
                      ANSWERS '65-82' FROM FILE CHEMINFORMRX

     FILE 'STNGUIDE' ENTERED AT 11:02:46 ON 17 JAN 2007

     FILE 'HCAPLUS, CASREACT, CHEMINFORMRX' ENTERED AT 11:04:53 ON 17 JAN 2007
                 D IBIB ED AB HITSTR

     FILE 'STNGUIDE' ENTERED AT 11:04:55 ON 17 JAN 2007

     FILE 'HCAPLUS, CASREACT, CHEMINFORMRX' ENTERED AT 11:05:11 ON 17 JAN 2007
                 D IBIB ED AB HITSTR 2-3

     FILE 'STNGUIDE' ENTERED AT 11:05:15 ON 17 JAN 2007

     FILE 'HCAPLUS, CASREACT, CHEMINFORMRX' ENTERED AT 11:05:53 ON 17 JAN 2007

     FILE 'STNGUIDE' ENTERED AT 11:06:02 ON 17 JAN 2007

     FILE 'HCAPLUS, CASREACT, CHEMINFORMRX' ENTERED AT 11:06:08 ON 17 JAN 2007
                 D IBIB ED AB FHIT 4

     FILE 'STNGUIDE' ENTERED AT 11:06:20 ON 17 JAN 2007

     FILE 'HCAPLUS, CASREACT, CHEMINFORMRX' ENTERED AT 11:07:10 ON 17 JAN 2007
                 D IBIB AB FHIT 5-64

     FILE 'STNGUIDE' ENTERED AT 11:08:21 ON 17 JAN 2007

     FILE 'HCAPLUS, CASREACT, CHEMINFORMRX' ENTERED AT 11:08:47 ON 17 JAN 2007
                 D BIB AB FHIT 65
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FILE 'STNGUIDE' ENTERED AT 11:08:50 ON 17 JAN 2007

FILE 'HCAPLUS, CASREACT, CHEMINFORMRX' ENTERED AT 11:09:03 ON 17 JAN 2007
D BIB AB FHIT 66-82

FILE 'STNGUIDE' ENTERED AT 11:09:12 ON 17 JAN 2007
D QUE NOS L43
D QUE NOS L46

FILE 'HCAPLUS, MEDLINE' ENTERED AT 11:11:57 ON 17 JAN 2007
L48 16 DUP REM L43 L46 (1 DUPLICATE REMOVED)
ANSWERS '1-16' FROM FILE HCAPLUS

FILE 'STNGUIDE' ENTERED AT 11:12:12 ON 17 JAN 2007

FILE 'HCAPLUS' ENTERED AT 11:12:31 ON 17 JAN 2007
D IBIB ED AB 1-16

FILE 'STNGUIDE' ENTERED AT 11:12:33 ON 17 JAN 2007

FILE 'STNGUIDE' ENTERED AT 11:13:55 ON 17 JAN 2007

FILE HOME

FILE STNGUIDE
FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Jan 12, 2007 (20070112/UP).

FILE ZCAPLUS

FILE COVERS 1907 - 17 Jan 2007 VOL 146 ISS 4
FILE LAST UPDATED: 16 Jan 2007 (20070116/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE HCAPLUS

FILE COVERS 1907 - 17 Jan 2007 VOL 146 ISS 4
FILE LAST UPDATED: 16 Jan 2007 (20070116/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE REGISTRY
Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 15 JAN 2007 HIGHEST RN 917470-98-5
DICTIONARY FILE UPDATES: 15 JAN 2007 HIGHEST RN 917470-98-5

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 30, 2006

Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

http://www.cas.org/ONLINE/UG/regprops.html

FILE CASREACT

FILE CONTENT:1840 - 14 Jan 2007 VOL 146 ISS 3

New CAS Information Use Policies, enter HELP USAGETERMS for details.

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**********************************************************
*                                                        *
*     CASREACT now has more than 10 million reactions    *
*                                                        *
**********************************************************
```

Some CASREACT records are derived from the ZIC/VINITI database (1974-1991) provided by InfoChem, INPI data prior to 1986, and Biotransformations database compiled under the direction of Professor Dr. Klaus Kieslich.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE CHEMINFORMRX
FILE LAST UPDATED: 5 DEC 2006 <20061205/UP>

>>> CAS Registry Numbers are available for
substances prior to 1995 <<<

FILE MEDLINE
FILE LAST UPDATED: 16 Jan 2007 (20070116/UP). FILE COVERS 1950 TO DATE.

All regular MEDLINE updates from November 15 to December 16 have been added to MEDLINE, along with 2007 Medical Subject Headings (MeSH(R)) and 2007 tree numbers.

The annual reload will be available in early 2007.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE BIOSIS
FILE COVERS 1969 TO DATE.
CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT
FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 10 January 2007 (20070110/ED)

FILE EMBASE
FILE COVERS 1974 TO 16 Jan 2007 (20070116/ED)

EMBASE is now updated daily. SDI frequency remains weekly (default) and biweekly.

This file contains CAS Registry Numbers for easy and accurate substance identification.

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